Attachment 3

San Diego Integrated Regional Water Management
Implementation Grant Proposal
Work Plan

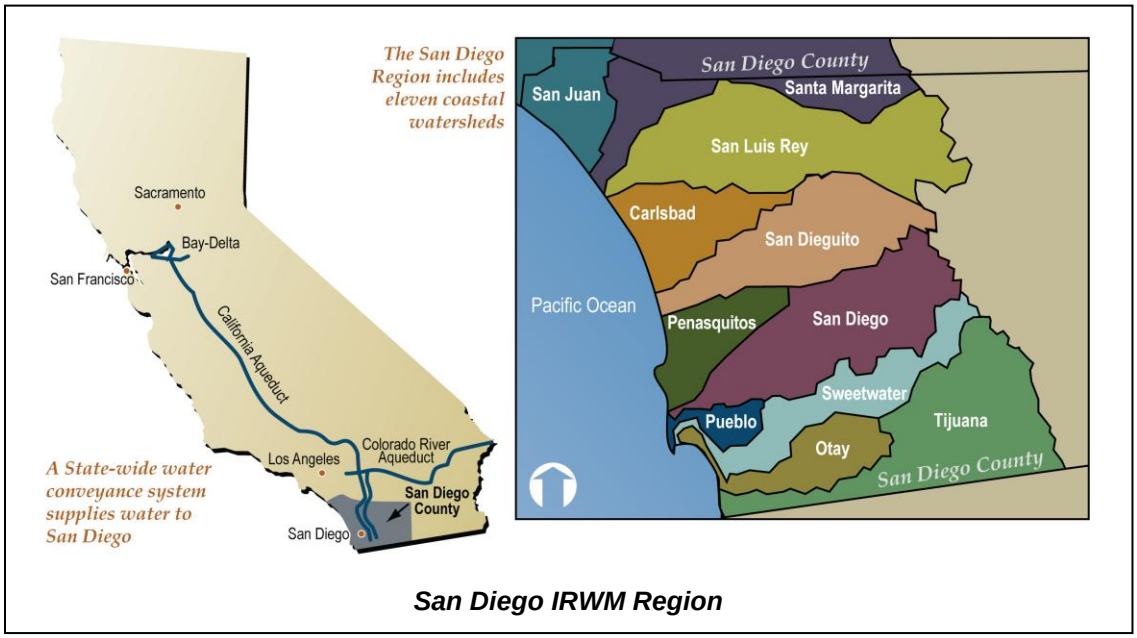
Attachment 3 consists of the following items:

- ✓ **Work Plan(s).** Attachment 3 contains detailed information regarding the tasks that were and will be performed for each project constituting the proposal, as well as supporting documents such as regional and project maps, and existing data and studies.

This Work Plan contains summary descriptions of all the projects constituting the *San Diego IRWM Implementation Grant Proposal* and tasks necessary to complete each project in the proposal. The Work Plan demonstrates that the proposal is ready for implementation, and includes a brief discussion of the supporting studies, data, resources, and deliverables for each project, to ensure implementation of the proposal is based on sound scientific and technical principles. The Work Plan tasks are also consistent with the major tasks and sub-tasks identified in the Budget (Attachment 4) and Schedule (Attachment 5) of this proposal.

Introduction

The Regional Water Management Group (RWMG) is comprised of the San Diego County Water Authority (SDCWA), City of San Diego (City), and County of San Diego (County). The combined jurisdiction of the three agencies comprises the entire San Diego IRWM region, and their combined responsibilities address all facets of water management. The San Diego IRWM program also includes numerous water management stakeholders who support IRWM planning and implementation through participation in committees, workshops, and projects. The Regional Advisory Committee (RAC) and ad-hoc Workgroups provide essential review, guidance, and recommendations to the RWMG and RAC on all IRWM planning topics. The Tri-County Funding Area Coordinating Committee (Tri-County FACC) is a collaborative effort among the three neighboring IRWM regions in the San Diego Funding Area to discuss planning and projects of mutual interest. Both of these groups play an important role in providing guidance for the IRWM program.



San Diego IRWM Region

In the 2007 San Diego IRWM Plan, the RWMG and RAC identified four goals and nine objectives that were established to guide water resource management in the region. Each of the IRWM Plan goals and their corresponding objectives are listed in Table 3-1.

Table 3-1: San Diego IRWM Plan Goals and Objectives

IRWM Plan Objective		Primary IRWM Plan Goals Implemented by Objective			
		Goal 1: Optimize water supply reliability	Goal 2: Protect and enhance water quality	Goal 3: Provide stewardship of our natural resources	Goal 4: Coordinate and integrate water resource management
A	Maximize stakeholder/community involvement and stewardship	○	○	●	●
B	Effectively obtain, manage, and assess water resource data and information	○	○	○	●
C	Further the scientific and technical foundation of water quality management	○	○	●	●
D	Develop and maintain a diverse mix of water resources	●			○
E	Construct, operate, and maintain a reliable water infrastructure system	●			○
F	Minimize the negative effects on waterways and watershed health caused by hydromodification and flooding		●	○	○
G	Effectively reduce sources of pollutants and environmental stressors		●	○	○
H	Protect, restore and maintain habitat and open space	○	○	●	○
I	Optimize water-based recreational opportunities		○	○	●

● Primary IRWM Plan goal targeted by Plan objective
○ Additional IRWM Plan goals targeted by objective

Through development and adoption of the IRWM Plan, regional stakeholders identified a suite of water management projects and programs that, together, will improve water supply reliability and water quality for the region, reduce dependence on imported water, eliminate or reduce pollution, and protect or restore in sensitive habitat areas. Those projects and programs were used to identify projects submitted as part of the Proposition 50 funding package.

As part of the ongoing IRWM program, regional stakeholders were invited to revise existing projects and/or submit new projects that further progress toward meeting the regional goals and objectives. The RWMG, RAC, and Project Selection Workgroup reviewed the submitted projects and identifies a new suite of projects for submittal as part of this *San Diego IRWM Implementation Grant Proposal* (Proposition 84-Round1).

The projects included within this proposal are consistent with the IRWM Plan. Each project included was identified as a Tier 1 high priority project by regional stakeholders. As shown in Table 3-2, each of the projects included within this proposal meets one or more of the water management objectives established for the region.

Table 3-2: Consistency of Proposed Projects with IRWM Plan Objectives

Proposal Projects	IRWM Plan Objectives Addressed								
	A	B	C	D	E	F	G	H	I
Water Supply / Recycled Water									
Sustainable Landscapes Program	●	○	○	●		○	●		
North San Diego County Regional Recycled Water Project	●	●		●	●				
North San Diego County Cooperative Demineralization Project	●			●	●		●		
Rural Disadvantaged Community (DAC) Partnership Project	●			●	●		●		
Water Quality / Stormwater									
Lake Hodges Water Quality and Quagga Mitigation Measures		●	●	●	●		●		
Implementing Nutrient Management in the Santa Margarita River Watershed	●	●	●				●		
Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection	●		●	○		●	●		○
Pilot Concrete Channel Infiltration Project		●	●	○		●	●		
San Diego Regional Water Quality Assessment and Outreach Project	●	●	●				●	○	
Natural Resources and Watersheds									
Chollas Creek Integration Project	●	●				●	●	●	
Data Management									
Regional Water Data Management Program	●	●	●						

● = directly related; ○ = indirectly related

Proposal Goals and Objectives

The objective of this *San Diego IRWM Implementation Grant Proposal* is to present a suite of projects and programs that:

- Further the mission, vision, goals, and objectives established in the San Diego IRWM Plan;
- Provide multiple benefits through integration of water management strategies;
- Implement high priority projects and programs as identified by the RAC; and
- Assist in meeting the region's critical water supply, water quality, and natural resources needs.

Purpose and Need

One of the most significant issues for the region is the availability and reliability of its water supplies, which currently consist primarily of imported water. The region receives imported water from the State Water Project (SWP) and the Colorado River, via the Metropolitan Water District of Southern California (MWD). It also receives Colorado River water that results from SDCWA's transfer agreement with the Imperial Irrigation District (IID) and its canal-lining projects in the Imperial and Coachella Valleys. Recent legal and regulatory decisions regarding water management in the Sacramento-San Joaquin River Delta may reduce the amount of water delivered by the SWP. This situation, coupled with the recent droughts affecting both the SWP and the Colorado River, serves as a reminder that the region's water supply is vulnerable to events outside the region. The region's water purveyors are working to improve the quantity and reliability of local supplies, primarily through expansion of water conservation and recycling programs.

Another significant issue for the San Diego region is the quality of surface water supplies. The San Diego region contains a number of water bodies on the Clean Water Act Section 303(d) list. Total Maximum Daily Loads (TMDLs) have been established for the higher priority impairments in beaches, creeks, lagoons, and San Diego Bay. The impact to water quality posed by increasing urban runoff from development is a significant concern. The region is also blessed with many natural resources, including a

wealth of critical riparian habitat that is home to a number of endangered species. An important aspect of integrated regional water management planning is to develop projects that can address the critical water supply and water quality issues, while also achieving goals of habitat preservation and expanded recreational opportunities.

As a result, water use efficiency in the form of conservation and recycling, and water quality improvement have been identified as the cornerstones of the region's IRWM program. As described in Attachment 1, the RWMG and RAC underwent a detailed project prioritization process to consider the water resources projects to be carried forward for consideration in this proposal. This top tier of projects was reviewed for eligibility for funding through the Proposition 84-Round 1 program and a recommended funding package was considered and approved by the RAC and then the SDCWA Board of Directors.

Through this process, 11 projects and programs were developed to best address the needs of the San Diego region, consistent with the goals and objectives of the San Diego IRWM Plan. Each program is comprised of a set of projects aimed at generating geographic balance and a wide array of benefits throughout the region.

For a full explanation of the purpose and need of each project, and how the purpose and need address the San Diego IRWM Plan's goals and objectives, please refer to individual project Work Plans included in this attachment.

Project List

This *San Diego IRWM Implementation Grant Proposal* is a compilation of projects that will diversify water supply, improve water quality, restore native habitat, and coordinate data management throughout the region. The water supply program (4 projects) will serve two purposes (1) diversify water supplies through water conservation and recycling projects and (2) support adequate supplies to small water systems. The projects will together reduce dependence on water imports and enhance water supply reliability. The water quality program (5 projects) will enhance surface water quality by reducing pollutants in stormwater runoff, receiving water bodies, and reservoirs. The natural resources and watersheds program (1 project) will improve surface water quality, in addition to improving ecosystem health and reducing flooding hazards. The final project – a regional data management system – will facilitate data management and coordination throughout the San Diego IRWM region.

This proposal includes the suite of projects best suited to meeting the current and future challenges of the San Diego region. Each of these programs integrates projects to address the major water supply, water quality, and resource management needs of the region. Further, projects within each program contain synergies and linkages with projects included in other programs, resulting in a truly integrated suite of projects that, when implemented together, will assist the region in meeting its critical water management needs in a real and measurable fashion.

Table 3-3 presents the specific projects included as part of the proposal, organized by program. An abstract, current project status, priority of the project, and implementing agency (sponsor) is provided for each project.

Table 3-3: Projects Included in the San Diego IRWM Implementation Grant Proposal

Project	Description	
WATER SUPPLY / RECYCLED WATER		
1: Sustainable Landscapes Program	*Abstract:*	The *Sustainable Landscapes Program* is designed to reduce water waste and pollutant infiltration into local waterways through the development and implementation of landscape standards and specifications generally consistent with the CA state Model Water Efficient Landscape Ordinance and the San Diego Regional Water Quality Control Board Municipal Stormwater Permit. This project is being developed in partnership with City of San Diego, County of San Diego, California American Water and non-profit partners such as California Center for Sustainable Energy, Surfrider Foundation, and Association of Compost Producers. The *Sustainable Landscapes Program* relies on the integration of landscape standards and specifications development, education and training, materials, incentives, outreach, and technical assistance to achieve project goals (water waste and pollution reduction). The project is targeted towards the residential sector, but will also include commercial participants. The project benefits are expected to accrue through 2022. Project benefits include: 1) water use reduction; 2) green waste reduction; 3) labor reductions associated with maintenance; 4) CO_2 emissions reduction; and 5) water quality improvements.
	Status:	Landscape standards and specifications are underway. Education and training curriculums have been developed by the Water Authority and will be geared towards the residential sector. Technical assistance has been initiated; the Water Authority is in the process of hiring a consultant on a limited basis to provide technical assistance to three pilot sites. No design work has been completed to date for this project.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	San Diego County Water Authority
2: North San Diego County Regional Recycled Water Project	*Abstract:*	The *North San Diego County Regional Recycled Water Project* is a plan by North San Diego County water and wastewater agencies to regionalize recycled water systems by identifying new agency interconnections, seasonal storage opportunities and indirect potable water uses that will maximize supplies, reduce wastewater discharges to ocean, potentially reduce energy consumption due to diminished delivery of imported water, and allow recycled water to play an even more significant role in meeting future water needs.
	Status:	The Recycled Water Facilities Plan will be completed in March 2011. This plan analyzed existing and proposed recycled water facilities and evaluated each agency's ability to interconnect and maximize the use of recycled water within their combined service areas. The Engineering Study for Regional Seasonal Recycled Water Storage will be completed in June 2010 after the Grant Agreement is in place, in order to complete the project. No design work has been completed to date for this project.
	Priority	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	Olivenhain Municipal Water District
3: North San Diego County Cooperative Demineralization Project	*Abstract:*	In Southern California wastewater, brackish water, and urban runoff are high in total dissolved solids (TDS) and other impurities that require advanced treatment to allow beneficial reuse. The *North San Diego County Cooperative Demineralization Project* is focused on developing new local water supplies and managing water quality issues by constructing advanced water treatment facilities at the SEWRF to mitigate high TDS sources and beneficial reuse and studying the feasibility of brackish to potable water desalination in North San Diego County.
	Status:	Project administration tasks have been implemented by the San Elijo Joint Powers Authority. The *Conceptual Design Report* was completed on March 23, 2009. The *Preliminary Design Report (PDR)* was completed on December 1, 2009. Geotechnical, chlorine and opportunities and constraints analysis have all also been performed. The project design is estimated at approximately 50% completed.

Project	Description	
	Priority	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	San Elijo Joint Powers Authority
4: Rural Disadvantaged Community (DAC) Partnership Project	*Abstract:*	The *Rural DAC Partnership Project* will provide funding to address inadequate water supply and water quality affecting rural DACs, including tribal communities. The project will reduce potential for high public health risks in water and/or wastewater systems. The project will promote environmental justice in rural communities by providing outreach to rural DACs for available infrastructure projects, while promoting IRWMP goals. RCAC will manage the Prop 84 grant funds to address inadequate water supply and water quality in rural DACs, including tribal communities. RCAC will lead a representative group of stakeholders and agencies, including a representative of the San Diego IRWM Regional Advisory Committee (RAC), to solicit and select rural DACs for funding of critical infrastructure improvement projects.
	Status:	Projects that will be completed as part of the *Rural DAC Partnership Project* have not yet been selected, and will be selected after the "Assessment and Evaluation" task has been complete. All reporting for this project will occur after initiation of the Implementation Grant Agreement (after June 1, 2011). No design work has been completed to date for this project.
	Priority	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	Rural Community Assistance Corporation
WATER QUALITY/STORMWATER		
5: Lake Hodges Water Quality and Quagga Mitigation Measures	*Abstract:*	The *Lake Hodges Water Quality and Quagga Mitigation Measures* project is intended to address two issues centered within the San Dieguito hydrologic unit. The first is how to improve low water quality within Lake Hodges. The second is how to mitigate against the potential long term effects of quagga mussels on Lake Hodges, San Dieguito Reservoir, Olivenhain Reservoir, and attached facilities.
	Status:	The Santa Fe Irrigation District (SFID) Water Quality Assessment was finalized in May 2011 addressing water quality data of Lake Hodges and A Vulnerability Assessment (to report on vulnerability to quagga mussel infestation) is underway. A Feasibility Study will be completed in February 2012. No design work has been completed to date for this project.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	San Diego County Water Authority
6: Implementing Nutrient Management in the Santa Margarita River Watershed	*Abstract:*	The project aims to establish nutrient WQOs for SM estuary (Phase I) and ultimately watershed (Phase II) that will lead to the implementation of nutrient reduction and water conservation practices in the watershed. The project consists of three major activities: Form and facilitate discussions among a SMR watershed stakeholder group to guide project activities, conduct monitoring and special studies to address data gaps identified by stakeholders to achieve project objectives and develop nutrient WQOs for the SMR estuary.
	Status:	This project will build on existing efforts by reviewing, with stakeholders, the available data for selection of NNE target, and calibrating and validating the estuarine water quality model in order to estimate the "maximum sustainable load" of N and P. No tasks for the project have been completed to date, and completion of design is not relevant to this project.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	County of San Diego

Project	Description	
7: Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection	*Abstract:*	The goal of the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* project is to reduce the pollutant load and volume of runoff entering the storm drain system in the Tecolote Creek Watershed. The load reduction goal will be achieved by diverting stormwater from the street to bioretention and treatment planters through curb cutouts. Enhanced streets will infiltrate storm flows through pervious pavement, which will reduce storm flows. These goals will also be achieved by diverting flows through a trash segregation unit and a series of AbTech (Bacterial Treatment System) units within the watershed.
	Status:	Tier II and Tier III Storm Water Best Management Practices Conceptual Designs were prepared in July 2008. Currently, the project is at 10% design, and 30% design for the project is anticipated prior to the grant award date (by May 2011).
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	City of San Diego – Storm Water Department
8: Pilot Concrete Channel Infiltration Project	*Abstract*:	The *Pilot Concrete Channel Infiltration Project* will convert a portion of the concrete channel in Woodglen Vista Creek (and other channels as budget/logistics permit) to a more porous base, facilitating infiltration of dry weather flows without compromising flood control capacity. This effort will assist in the attainment of bacteria TMDL waste loading allocations.
	Status:	A Dry Weather Field Screening and Analytical Monitoring Program was developed by the City of Santee in 2009. This pilot project is currently at 5% design status.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	City of Santee
9: San Diego Regional Water Quality Assessment and Outreach Project	*Abstract:*	The *San Diego Regional Water Quality Assessment and Outreach Project* continues critical work conducted by San Diego Coastkeeper through 2011 as part of the Proposition 50 funding cycle. The project will engage community stakeholders to collect and analyze surface water samples in eight to nine watersheds throughout San Diego County and conduct trash removal in these areas. Samples will be analyzed for physical, chemical, bacterial, dissolved metals and nutrient constituents, as well as toxicity and bioassessment indicators. Resultant water quality data will be publically accessible to support public involvement in water resource conservation and stewardship of watershed function and health
	Status:	This project is a continuation of water quality assessment efforts began under a Proposition 50 grant. The work plan and budget are designed to continue the program for an additional 2 years (2012-2013) to provide expanded water quality data for watershed and regulatory programs throughout the County.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	San Diego Coastkeeper
NATURAL RESOURCES AND WATERSHEDS		
10: Chollas Creek Integration Project	*Abstract:*	The purpose of the *Chollas Creek Integration Project* is to gather and generate scientific data and stakeholder input to form an integrated planning process for the Pueblo Hydrologic Unit that will update the Chollas Creek Enhancement Program and establish implementation strategies. Further, this project will restore native habitat and reduce flooding hazards within Chollas Creek (Section 2A), which will provide baseline data for future water quality and habitat improvements. The project improves and maintains Chollas Creek as a natural urban drainage system that serves as a major conduit for stormwater runoff in the disadvantaged Encanto community.
	Status:	This project will build from a 2002 Chollas Creek Enhancement Program developed by the City of San Diego. Biology and

Project	Description	
		hydrology studies have been prepared for the Section 2A alignment. The creek restoration conceptual design has been initiated. 10% conceptual design has been completed to date.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	Jacobs Center for Neighborhood Innovation
DATA MANGEMENT		
11: Regional Water Data Management Program	*Abstract:*	The goal of the *Regional Water Data Management Program* is to provide a snapshot of current data management efforts and prioritize data needs and lay them out in a basic design parameters recommendations document for the future development of a regional, web-based system for sharing, disseminating and supporting the analysis of water management data and information.
	Status:	No design work has been completed to date for this project.
	Priority:	High. This project was ranked Tier 1 in the prioritization process and was subsequently selected by the Project Workgroup as a project that should be implemented without delay.
	Sponsor:	County of San Diego

Integrated Elements of Projects

Several of the projects included in this proposal are linked, and the coordinated implementation of each project is critical to the success of the proposal as a whole. The proposal has been crafted to maximize the linkages and integration between the projects within the proposal, and projects included in the proposal have been selected based on their ability to generate multiple benefits.

For a full explanation of the linkages and synergies between projects, please refer to individual project Work Plans included in this attachment.

Regional Map

Figure 3-1 provides a regional overview of the eleven proposed projects in this *San Diego IRWM Implementation Grant Proposal*.

Completed Work

Significant work has been completed is expected to be completed prior to the grant award date (June 1, 2011) on projects included in this proposal. Please note that the individual Work Plans below contain information for each work plan task, demonstrating the work that will be completed by June 1, 2011. By June 1, 2011, the following work will have been completed on the programs included herein:

Project 1: Sustainable Landscapes Program

Prior to initiation of the grant agreement, SDCWA and other partners involved in this project will have and will continue to hold meetings to coordinate project elements and draft the project structure. In addition, the project partners will have drafted a Memorandum of Understanding prior to June 1, 2011.

Completed work for this project has also included a Request for Proposal process and issuance of a purchase order to a landscape architect to develop water efficiency guidelines and specifications. These actions were completed in November 2010.

Project 2: North San Diego County Regional Recycled Water Project

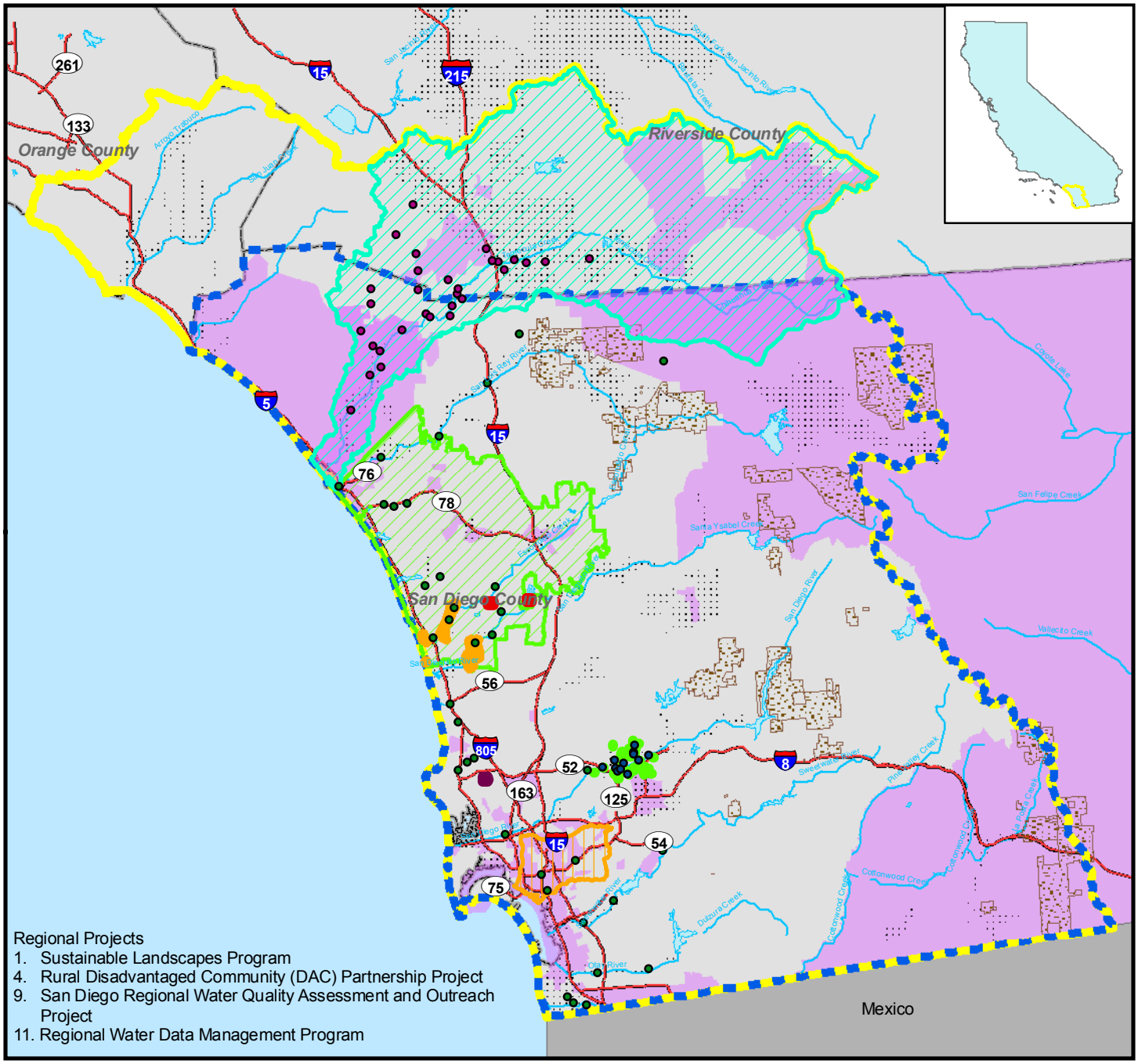
Olivenhain Municipal Water District (OMWD), in conjunction with some of its project partners, is in the process of completing a *Recycled Water Facilities Plan*, which is anticipated in March 2011. This plan includes analysis of existing and proposed recycled water facilities, and evaluates each partner agency's ability to interconnect and maximize the use of recycled water within their combined service areas.

Project 3: North San Diego County Cooperative Demineralization Project

Prior to initiation of the grant agreement, San Elijo Joint Powers Authority (SEJPA) will have conducted several plans and/or studies to assess and evaluate the *North San Diego County Cooperative Demineralization Project.* These studies include:

- San Elijo Joint Powers Authority. March 2009. *Conceptual Design Report for Flow Equalization/Recycled Water Storage Facility.*
- San Elijo Joint Powers Authority. July 2009. *Updated Financial Assessment for the Recycled Water System.*
- San Elijo Joint Powers Authority. December 2009. *San Elijo Recycled Water Project Mitigated Negative Declaration.*
- San Elijo Joint Powers Authority. December 2009. *San Elijo Water Reclamation Facility: Final Preliminary Design Report, Recycled water Demineralization Project.*
- San Elijo Joint Powers Authority. March 2010. *Geotechnical Investigation, Proposed Improvements, San Elijo Water Reclamation Facility Encinitas, California.*
- San Elijo Joint Powers Authority. August 2010. *San Elijo Water Reclamation Facility Chlorine Contact Basin Tracer Study Final Report.*
- *Opportunities and Constraints Analysis*, which will be completed in March 2011. Please note that because this document has not been finalized, it is not contained within this Implementation Grant Proposal.

Figure 3-1: Implementation Grant Proposal Regional Map



Legend

- Regional Projects (Nos. 1, 4, 9, 11)
- 2. San Diego North Regional Recycled Water Project
- 3. North San Diego County Cooperative Demineralization Project
- 5. Lake Hodges Water Quality & Quagga Mitigation Measures
- 6. Implementing Nutrient Management in the Santa Margarita Watershed
- 7. Bannock Avenue Neighborhood Streetscape Enhancements
- 8. Pilot Concrete Channel Infiltration Project
- 10. Chollas Creek Integration Project
- Proposed Monitoring Sites - Project No. 8
- Proposed Monitoring Sites - Project No. 6
- Proposed Monitoring Sites - Project No. 9
- Groundwater Basins
- Median Household Income <$38,000
- Tribal Lands
- San Diego IRWM Region
- Funding Area Boundary
- Ocean
- Waterbody
- River
- Freeway
- Mexico
- County

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Miles

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U.S. Census Bureau, 2000 Census, Median Household Income by Census Tract, Available: http://www.sandag.cog.ca.us/resources/maps_and_gis/gis_downloads/admin.asp
Tribal Lands, Available: http://www.sangis.org/Download_GIS_Data.htm

In addition, the *North San Diego County Cooperative Demineralization Project* is anticipated to be at 60% design status on June 1, 2011. As such, the SEJPA completed 10% conceptual design for the project in September 2009, completed 30% conceptual design for the project in December 2009, and anticipates completing 60% and 90% design for the project in January 2011 and May 2011, respectively. The SEJPA also completed membrane pre-selection design work for the project in December 2010.

Environmental documentation for this project has also been partially completed. An Initial Study/Mitigated Negative Declaration document was completed in December 2009. In addition, permitting for this project will be partially completed by June 1, 2011, as the SEJPA anticipates obtaining a Coastal Development Permit for the project by February 2011.

Project 4: Rural Disadvantaged Community (DAC) Partnership Project

While no specific work has been or will be completed for this project by June 1, 2011, this project was developed and designed based on information within existing data and studies. A detailed list of these studies is available below within the individual work plan description of this project.

Project 5: Lake Hodges Water Quality and Quagga Mitigation Measures

Prior to initiation of the grant agreement, the San Diego County Water Authority (SDCWA) will have conducted several plans and/or studies to assess and evaluate the *Lake Hodges Water Quality and Quagga Mitigation Measures project.* These studies include:

- Agreement between SDCWA and City of San Diego for the Emergency Storage Project (Joint Use of lake Hodges Dam and Reservoir), Section 9.1.2, April 1998.
- San Diego Regional Quagga Mussel Working Group. April 2008. *San Diego Regional Dreissena Mussel Response and Control Plan.*

In addition to these completed studies, two additional studies, the *Santa Fe Irrigation District Water Quality Assessment* and a *Quagga Mussel Vulnerability Assessment* will be finalized in May 2011 and June 2011, respectively.

Prior to initiation of the grant agreement, the SDCWA and other partners involved in this project will have assembled a stakeholder committee, developed agreements with project partners, held stakeholder meetings and correspondence, set up the project budget in the SDCWA financial system, and entered the project schedule.

Project 6: Implementing Nutrient Management in the Santa Margarita River Watershed

In 2009, the Santa Margarita Lagoon discharges conducted studies to assess and evaluate data relevant to the implementation of the *Implementing Nutrient Management in the Santa Margarita River Watershed* project. These studies include:

- CDM Federal Programs Corporation. June 2009. *Santa Margarita River Lagoon Monitoring Project: Data Usability and Assessment Review, Field Measured Data.*
- CDM Federal Programs Corporation. June 2009. *Santa Margarita River Lagoon Monitoring Project: Data Usability and Assessment Review, Laboratory Data.*

In addition to the completed studies, the San Diego County Water Authority and its project partners will complete a *Sample and Analysis Plan*, a *Quality Assurance Project Plan*, and a *Project Assessment Evaluation Plan* by May 31, 2011. The San Diego County Water Authority and its project partners will also form and facilitate a stakeholder advisory group, complete a *Santa Margarita River Estuary Investigation,* and collect data in the Santa Margarita River Estuary by May 31, 2011.

It is also anticipated that environmental documentation, which is anticipated to include a CEQA Categorical Exemption, will be established for the project by May 31, 2011.

Project 7: Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection

Prior to initiation of the grant agreement, the City of San Diego will have conducted several plans and/or studies to assess and evaluate the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* project. These studies include:

- City of San Diego Storm Water Pollution Prevention Division. November 2007. *The Strategic Plan for Watershed Activity Implementation.*
- City of San Diego. July 2008. *Tier II and Tier III Storm Water Best Management Practices Conceptual Designs* (Pages 59-74).
- Storm Water Department, Storm Water Pollution Prevention Division. October 2009. *Preliminary Engineering Report (10% Pre-Design Report): Bannock Avenue Neighborhood Streetscape Enhancements and Bannock Avenue Bacteria Treatment for Tecolote Creek Watershed Protection.*
- CVALDO Corporation Civil Engineering. 2008. *Bannock Ave Neighborhood Streetscape Enhancements and Bacteria Treatment for Tecolote Creek Watershed Protection – Concept Plan.*

As of June 1, 2011, 30% of the design for this project will be complete. 10% design for this project was completed in August 2008 and 30% design for this project is anticipated to be complete by May 2011.

Environmental documentation for this project has also been completed. An Initial Study/Mitigated Negative Declaration document was completed to address impacts from the City of San Diego's Jurisdictional, Watershed, and Regional Urban Runoff Management Plans (these plans have been revised per the City's Municipal Storm Water NPDES permit, issued in January 2007). In particular, the MND addressed potential environmental impacts associated with infiltration projects citywide. The MND was approved by the San Diego City Council, conjunction with approval of the City's updated Urban Runoff Management Plans, in January 2008.

Project 8: Pilot Concrete Channel Infiltration Project

Prior to initiation of the grant agreement, the City of Santee will have conducted several plans and/or studies to assess and evaluate the *Pilot Concrete Channel Infiltration Project*. These studies include:

- City of Santee. 2009. *Dry Weather Field Screening and Analytical Monitoring Program.*
- City of Santee. 2009. *2009 Additional Study, Rivers and Creeks.*

The City of Santee will also complete a review of prior monitoring data, a literature review, community consultation and education, and make geotechnical recommendations regarding the project prior to June 1, 2011. In addition, the City of Santee completed work necessary to secure approval of the 2007 San Diego IRWM Plan by the Santee City Council, which occurred in December 2010.

As of June 1, 2011, 10% of the design and environmental documentation for this project will be complete. 10% design documentation as well as CEQA documentation for this project are anticipated to be complete by May 2011.

Project 9: San Diego Regional Water Quality Assessment and Outreach Project, 2010

San Diego Coastkeeper is in the process of completing *Annual Watershed Reports*, which are anticipated to be complete in March 2011.

Project 10: Chollas Creek Integration Project

Prior to initiation of the grant agreement, the Jacobs Center for Neighborhood Innovation, in conjunction with project partners, will have conducted several plans and/or studies to assess and evaluate the *Chollas Creek Integration Project*. These studies include:

- City of San Diego. September 2006. *Chollas Creek TMDL Source Loading, Best Management Practices, and Monitoring Strategy Assessment.*
- City of San Diego. May 2002. *Chollas Creek Enhancement Program.*

- Jacobs Center. October 2008. Chollas Creek Section 2A Restoration Biology Study.
- Jacobs Center. October 2008. Chollas Creek Section 2A Restoration Hydrology Study.

Project 11: Regional Water Data Management Program

No work will be performed for this project prior to June 2011.

Existing Data and Studies

Available data and studies have been collected and reviewed to support the feasibility and technical methods of the projects included within this proposal. For a list of the existing data and studies for each project, please refer to individual project Work Plans included in this attachment. The existing data and studies included for each individual project have been submitted on a separate CD as part of this Implementation Grant proposal.

Project Maps

Site maps showing each project's geographical location and the surrounding work boundary are included in individual project Work Plans provided belwo. Please refer to those individual project maps.

Project Timing and Phasing

Some projects included in this proposal are multi-phases projects and can operate on a standalone basis whiles others are not. For project timing and phasing for each project please refer to individual project Work Plans included in this attachment.

Work Plan Tasks

The following sections outline the specific activities that will be performed to implement each project in the *San Diego IRWM Implementation Grant Proposal*. In addition, the following sections describe the specifics of each project with respect to project sponsors, project need, project purpose, project objectives, project partners, project abstract, linkages and synergies between projects, existing data and studies, project timing and phasing, and project mapping.

Project 1: Sustainable Landscapes Program

I. Introduction

Project Sponsor

The San Diego County Water Authority is the project sponsor for the *Sustainable Landscapes Program*.

Project Need

The San Diego region is about 80% dependent on imported water supplies, with many impaired watersheds. It is estimated that about 50% of potable water is applied on landscapes, of which 50% is wasted due to inefficient irrigation and poor soil conditions, which contribute to undesirable urban runoff. Studies have shown that most landscapes are over-irrigated, providing an opportunity to conserve and extend our water supply by more precise management of applied water, upgrades to irrigation systems, changes in the types of plants used (moving away from thirsty turf to a water wise plant palette), and improved landscape maintenance practices.

Urban runoff (or dry-weather flow) can contribute high pollutant loading to receiving waters. As a consequence, the region's waterways continue to be impaired by pollutants such as bacteria, nitrates, sediment, and phosphorus that are associated with landscaping activities. This continuous pollution detracts from the beneficial uses of waterways and watersheds.

Project Purpose

The *Sustainable Landscapes Program* is a multifaceted project that consists of a suite of activities designed to increase water efficiency and reduce watershed pollutants. Implementation of the *Sustainable Landscapes Program* will aid the region in decreasing reliance on imported water supplies, improving water efficiency, and reducing pollutant discharges into watersheds. Proposed program elements include:

1. ***Development of Landscape Guidelines and Specifications*** – This task will produce an integrated set of landscape guidelines and specifications that are generally consistent with both the California Model Water Efficient Landscape Ordinance (adopted in September of 2009) and Low Impact Development. This effort is focused on simplifying complex technical standards to make them more practicable by industry practitioners and property owners. It is anticipated this task will generate deliverables not limited to:
    - User-friendly landscape guidelines; and
    - Project design & implementation checklists.
2. ***Creation of Educational Materials and Provision of Landscape Training*** – This project will develop new curriculum and educational materials, and provide training classes based on the landscape guidelines developed in Task 1 (see above). This task aims to make the technical content of both Model Water Efficient Landscape Ordinance and Low Impact Development more accessible to professional and Do-It-Yourself (DIY) audiences. These new educational resources will ensure participants understand the objectives of the guidelines and increase the probability that their projects are executed effectively.
3. ***Provision of Technical Assistance*** – This task will provide limited technical assistance to participants that may include:
    - Sample irrigation and landscape designs
    - Landscape design workshops
    - Limited site-specific design assistance

    This task is anticipated to improve the effectiveness of landscape retrofit projects by participants, based on findings from the Water Authority's Landscape Retrofit Pilot. Past conservation program participants have emphasized a need for site-specific technical assistance in order to abide by program guidelines and successfully incorporate key sustainability features.
4. ***Retrofit Incentives*** – This project will provide limited financial incentives to subsidize the cost to participants of qualified landscape design services and materials that are consistent with the guidelines developed under Task 1. Incentives may include, but are not limited to:
    - Landscape materials (plants, irrigation hardware, & other related costs); and
    - Discounts and/or credit for qualified landscape design services.

    Other types of incentives are under consideration and may be included if deemed viable.
5. ***Provision of Landscape Materials*** – Subject to availability, this task may offer free or discounted landscape materials and equipment to participants to aid them with landscape conversion projects. Materials and equipment may include, but is not limited to compost, smart controllers, rotating nozzles, pressure regulators and other items. If feasible, the program will offer participants access to promotional, discounted rates for landscape materials.
6. ***Outreach & Stakeholder Involvement*** –The project team anticipates soliciting input from industry and stakeholders via a project advisory committee(s). Anticipated stakeholder involvement may include:
    - Irrigation Association
    - California Landscape Contractors Association
    - American Society of Landscape Architects

- California Association of Community Managers
- Past conservation program participants

This task may include the development and printing of project marketing and outreach materials, as needed.

Project Objectives

The *Sustainable Landscapes Program* seeks to accomplish the following objectives:

- To actively seek community involvement by means of outreach activities and advisory groups to help guide the development and implementation of this project.
- To integrate water conservation and watershed protection measures leading to measurable water savings, runoff reduction, and local watershed improvement.
- To develop new materials and resources to assist the public in implementing sustainable landscape retrofits.
- To create interest and demand for sustainable products and services, spurring market transformation through financial incentives.
- To apply community-based marketing to influence social norms (attitudes and practices) as related to urban landscape design and maintenance.
- Increase incorporation of Low Impact Design (LID) in San Diego landscapes to encourage onsite infiltration to alleviate impact of development on waterways.
- Educate residential and commercial sectors on how to create water efficient and LID landscapes that will assist with market transformation.

Table 3-4 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Sustainable Landscapes Program.*

Table 3-4: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Sustainable Landscapes Program	●	○	○	●		○	●		

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder/community involvement and stewardship***. A stakeholder advisory group will guide the development of various program elements. Additionally, all program efforts will engage the community, and instill a sense of stewardship.
- ***B: Effectively obtain, manage, and assess water resources data and information***. The project will access or generate participants' water use data (baseline and post-conversion). The collected data will be available to project managers and overall results will be periodically reported to the grant funding agency.
- ***C: Further the scientific and technical foundation of water management***. Upon project completion, a process evaluation and impact assessment will document the effectiveness of the program, and identify opportunities for further refinement. Expected outcomes include a measurable reduction in applied water.
- ***D: Develop and maintain a diverse mix of water resources***. The project will yield measurable water savings to help the region achieve regional water conservation targets. The project will also use innovative techniques, such as site rainwater harvesting, to reduce potable water use and maximize the use of other resources.

- ***F: Reduce the negative effects on waterways and watershed health caused by hydro-modification and flooding***. The project aims to abate dry season runoff, to significantly increase onsite storm water runoff retention at participating sites, and to improve local watershed health. The resulting lower runoff volume will benefit the downstream storm water system and receiving waters.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. The project promotes a zero tolerance for dry weather urban runoff. Project guidelines will promote organic methods. Use of chemical pesticides and fertilizers will be discouraged and subject to use only in moderation. Measures to improve onsite runoff retention will intercept and retain onsite pollutants that would otherwise pollute storm water runoff, entering the ocean and harming the ecosystem. Non-point source pollutant loading associated with landscaping activities at participating sites is expected to be significantly reduced.

Project Partners

Project partners in the *Sustainable Landscapes Program* include: the County of San Diego (Watershed Protection Program); City of San Diego Public Utilities Department; City of San Diego Storm Water Department (Storm Water Pollution Prevention Program and Think Blue Program); California American Water; Surfrider Foundation (Ocean Friendly Gardens Program); California Center for Sustainable Energy (CCSE); and the Association of Compost Producers (ACP).

Project Abstract

The *Sustainable Landscapes Program* is designed to reduce the amount of potable water applied to urban landscapes (reduce water waste) while also reducing pollutant infiltration into local waterways. The project aims to provide a practical, integrated approach to help the public comply with the spirit of two separate regulations that impact urban landscapes: the CA state Model Water Efficient Landscape Ordinance and the San Diego Regional Water Quality Control Board's Municipal Stormwater Permit. This project is a collaborative effort among three public agencies, a private water utility, and three non-profit organizations within San Diego County. The *Sustainable Landscapes Program* relies on the integration of landscape guidelines and specifications development, education, training, incentives, technical assistance, and outreach to achieve project goals (water waste and pollution reduction).

The project is principally targeted at the residential sector, but may also include commercial participants. The project's comprehensive scope is a departure from conventional landscape conservation programs in that it goes well beyond addressing merely financial incentives for a specific device. Although the project term spans only from October 2010 to September 2014, the project benefits are expected to accrue through 2022. Project benefits include: 1) water use reduction; 2) green waste reduction; 3) labor reductions associated with maintenance; 4) CO_2 emissions reduction; and 5) water quality improvements.

This multifaceted project relies on the integrated implementation of the six inter-dependent tasks. The Water Authority and its partners are ready to begin implementation upon execution of the grant award. Advanced planning and implementation for several project tasks is already underway, and the project is currently at 0% completion of design. Specific details on progress achieved to date are provided below.

Progress to Date

Progress towards the completion of the six activities outlined in this project is detailed below:

- *Guidelines and Specifications (Started)* – SDCWA has already outsourced the development of landscape guidelines based on the CA State Model Water Efficient Ordinance. Additional work to combine these guidelines with Low Impact Development standards will be tasked upon execution of the Proposition 84 grant contract.
- *Education/Training (Partners Selected)* – SDCWA will work with its partners to develop curriculum consistent with the guidelines and specifications discussed in bullet 1. To a large degree, educational resources will build upon the Ocean Friendly Gardens curriculum already developed by the Surfrider Foundation. The partners will scope out work for this task during early 2011, so

that work may commence upon contract execution. Primary focus will be on the residential sector, but may also address commercial-grade landscapes.

- *Technical Assistance (In Progress)* – Through another existing water conservation program, the Water Authority will be developing in Spring 2011 three new landscape designs. To date, we have already produced and collected several other landscape designs as well. Such design templates will be an important reference to project participants. Upon execution of the grant, anticipated work may include site-specific planning, preliminary design recommendations, cost estimating & scheduling, pre- and post-implementation site visits, and periodic technical support.
- *Incentives (Pending Award)* – It is estimated that the requested funding for this task will be sufficient to retrofit about 6 acres of existing turf, resulting in approximately 180 AF of water savings over 10 years. The methodology for issuing incentives will be adapted from the Water Authority's ongoing WaterSmart Landscape Retrofit pilot, which provides a cash incentive for the conversion of existing turf to landscapes that meet program specifications. Other types of incentives may also be incorporated (i.e. landscape design plan incentive).
- *Materials (Pending Award)* – Project participants may be eligible to receive free or discounted landscape materials and equipment. Already secured is a supply of free compost from multiple sources. It is anticipated that new industry sponsors may be willing to provide products at a discounted rate as part of a regional promotion related to this project. This may eventually enable the project to also deliver added value to participants in relation to irrigation materials and other items.
- *Outreach (Pending Award)* – Outreach efforts will leverage input from several existing stakeholder groups. It is anticipated that a Project Advisory Committee may be convened to solicit community input and feedback on various program elements.

Linkages and Synergies between Projects

The San Diego County Water Authority's WaterSmart Landscape Conversion Pilot Rebate Program provides past implementation experience; relevant program materials; and a demonstrated model for issuing financial incentives proportional to the size of the retrofit.

The City of San Diego's Residential Outdoor Water Conservation Rebate Program and other turf conversion programs currently provide cash incentives. The proposed project will develop new resources (such as technical assistance, public outreach, education materials, and marketing efforts), which will enhance the City's current offerings. Another potential benefit is improved regional consistency in messaging for current and future turf conversion programs.

The County of San Diego's Regional Water Data Management Program (Project 11 in this proposal) aims to determine data management needs, sensitivities, analysis tools, etc. that could be used to develop a data management system to track watershed activities and resulting pollutant levels. There is a possibility that the efforts may provide monitoring analysis tools to help track the impact of this project on watersheds.

The Water Authority developed and piloted a Homeowners Association How-To-Guide (2008-2009) aimed at property managers and HOA Board members. The guide provides best management practices for community associations interested in making water-efficient improvements to their landscapes. Some of the existing content may be adapted for use in this project. This prior experience will guide the project team's efforts in developing new technical assistance materials.

CAL FIRE grant agreement #8CA09929 (Proposition 84 funds) with the California Center for Sustainable Energy will create an Advice and Technical Assistance Center (ATAC) for Urban Forestry in the San Diego Region. As a project partner, CCSE will make the new ATAC available to project participants.

The University of California Cooperative Extension's Integrated Pest Management (IPM) Community Outreach engages the public via runoff workshops, event booths, and two kiosks. Principles from IPM outreach could possibly be shared and mutually support the goal to reduce urban runoff contaminants.

The outreach program at the Water Conservation Garden at Cuyamaca College and other regional gardens provide water conservation and runoff reduction workshops, classes and events. Both the regional gardens and this project could benefit from synergies such as public outreach opportunities, outreach and education materials, and technical resources.

County of San Diego Rain Barrel Sales Program provides reduced-cost rain barrels as a tool to reduce urban runoff and "first-flush" pollutants. The County, a project partner, will apply its experience with the Rain Barrel Program to inform and guide this project in relation to potential onsite runoff retention measures.

Sustainable Urban Landscape Conference at Cuyamaca College provides a venue for industry professionals to share their visions and technical expertise on San Diego landscape trends and the job market. The conference is a source of information and potential case studies of relevance to this project.

The Water Authority's past 20 Gallon Challenge, the City of San Diego's current "Waste No Water" and other regional water conservation awareness campaigns provide public awareness for water conservation and storm water runoff issues. These campaigns have effectively sensitized the public about our region's water shortages, increasing our probability of successfully recruiting an adequate number of project participants.

Surfrider Foundation, another project partner, has successfully developed the Ocean Friendly Gardens (OFG) Program Series, which serves as a precursor to this project's education components. The series consists of a basic class that teaches conservation, permeability and retention (CPR) principles and practices. Class participants receive a CPR guide. The basic class is followed by a Hands-On Workshop (HOW) that applies OFG components to an actual garden in preparation for a landscape retrofit. During the retrofit, or Garden Assistance Program (GAP), class participants transform a landscape that incorporates the CPR principles and practices. Finally, the series includes a "Lawn Patrol" neighborhood walk to identify OFG criteria in a neighborhood's landscapes. The OFG provides opportunities for public agencies to sponsor the series for their community. Other important elements of the OFG program include the yard sign and tracking tool.

Existing Data and Studies

This project type, scope, and focus is identified in the following plans and studies:

- Greater Los Angeles County Integrated Regional Water Management Plan. April 2009. *Region Acceptance Process Application.*
- US EPA. December 2009. Research Report on Turfgrass Allowance.
- Municipal Water District of Orange County, Irvine Ranch Water District. July 2004. *The Residential Runoff Reduction Study.*
- Los Angeles County Department of Public Works. May 2004. *Sun Valley Watershed Management Plan.* Available from: http://www.sunvalleywatershed.org/ceqa_docs/plan.asp
- Los Angeles and San Gabriel Rivers Watershed Council. January 2010. Watershed Augmentation Study: Research, Strategy, and Implementation Report.
- Center for Watershed Protection. April 2008. Technical Memorandum: The Runoff Reduction Method.
- Wilson, Alex and Jessica Boehland. *What's Wrong with the Conventional Lawn?* Facilities Management Resources Sustainability: Natural Landscaping and Artificial Turf: Achieving Water Use and Pesticide Reduction.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

The *Sustainable Landscapes Program* is not a multi-phased project. It is a pilot that tests a new integrated delivery method (e.g., incentives, training, technical assistance, education, materials, marketing and outreach) for water conservation and LID techniques.

Project Map

Figure 3-2 provides a project site map for the *Sustainable Landscapes Program*, showing the project boundary, surface waters, and groundwater basins.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports to DWR. The Sustainable Landscapes Program will contribute $31,500 to this administrative cost.

A. Direct Project Administration Costs

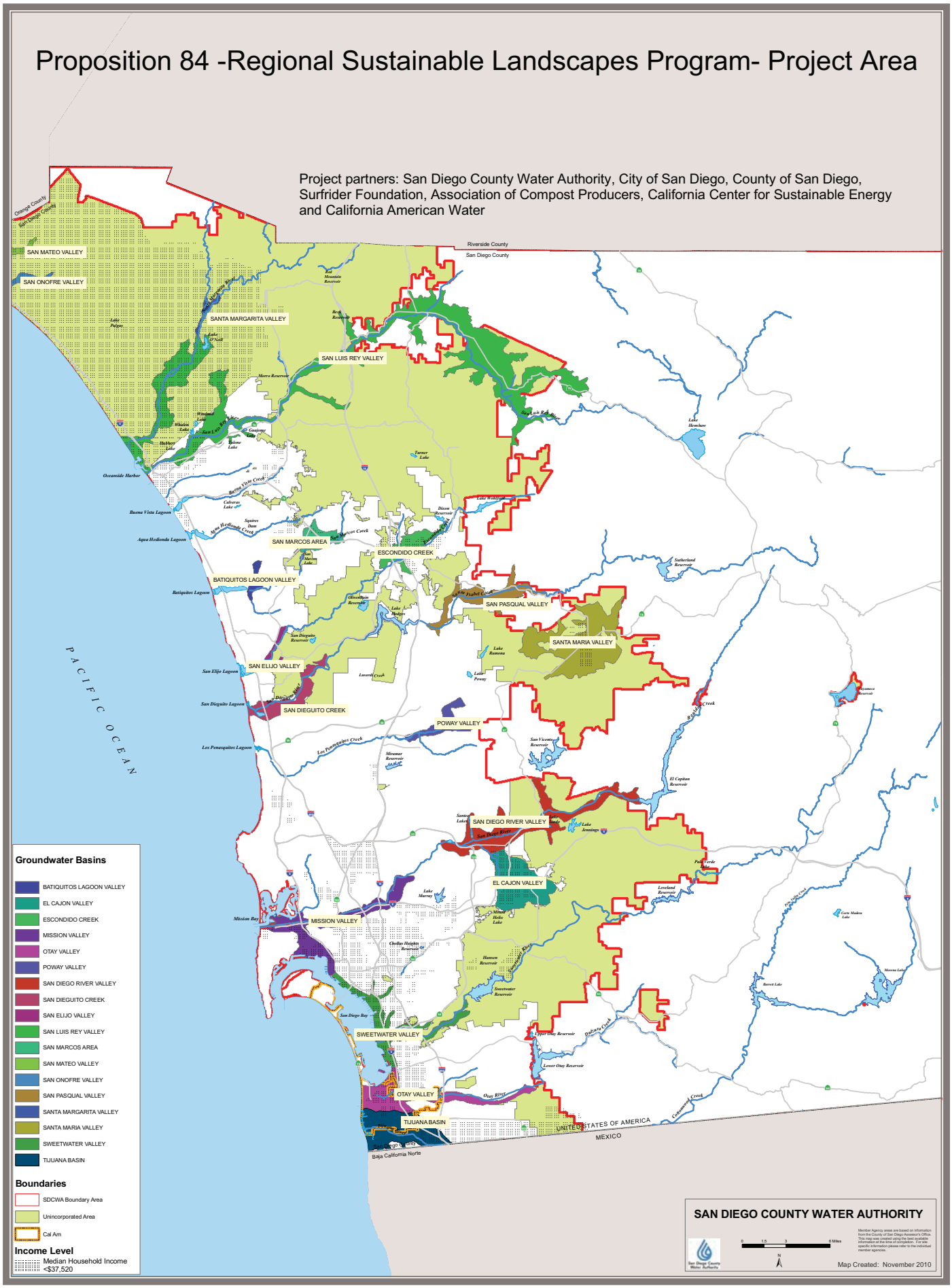
Task 1 – Project Administration: This project will involve project administration before and after the Implementation Grant Agreement is formalized (June 1, 2011).

Project administration for this project before June 1, 2011 will involve ongoing meeting coordination and development of draft memorandums of understanding among partners. Deliverables that will be produced from these project administration efforts include a Draft Memorandum of Understanding, and a Draft Project Organization Chart. These efforts will require labor from a Project Scheduler/Management Analyst, a Water Resources Specialist (Project Manager), a Senior Water Resources Specialist, and a Principal Water Resource Specialist.

Project administration for this project after June 1, 2011 will involve execution of Memorandums of Understanding; invoicing and reporting; and Project Tracking Procedures, and Regular Coordination Meetings with Partners. Deliverables that will be produced from these project administration efforts include invoices, quarterly reports, updated budgets, updated schedules, and change orders. These efforts will require labor from a Project Scheduler/Management Analyst, a Water Resources Specialist (Project Manager), a Senior Water Resources Specialist, and a Principal Water Resource Specialist.

Labor Category	Level of effort	Status
BEFORE June 1, 2011		
Project Scheduler/Management Analyst	30	Underway
Water Resources Specialist (Project Manager)	60	Underway
Senior Water Resources Specialist	10	Underway
Principal Water Resources Specialist	15	Underway
AFTER June 1, 2011		
Project Scheduler/Management Analyst	220	Not started
Water Resources Specialist (Project Manager)	480	Not started
Senior Water Resources Specialist	90	Not started
Principal Water Resources Specialist	150	Not started

Figure 3-2: Sustainable Landscapes Program Map



Task 2 – Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program (LCP) in accordance with CCR §16421-16439. The Water Authority has a vendor (Golden State LLC) that provides assistance with labor compliance efforts. This vendor is authorized by the State of California to provide labor compliance services. This program has been designed in a manner that is not expected to require labor compliance. The program scope is focused on the development of technical resource, educational resources, and incentives for materials, which exclude construction. If this project is deemed to trigger labor compliance requirements the vendor will be used to administer labor compliance-related tasks associated with this project. Deliverables for this task, if necessary, would include an assessment of the need for a LCP for this project, a LCP (if necessary), and annual reports (if necessary).

Task 3 – Reporting: All reporting for this project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Reports and Invoices	Quarterly as determined by Start	Not started
Project Completion Report	November 2014*	Not started

*Based on completion of project by June 30, 2014. Project completion report due 90 days after end of term.

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: Not applicable.

Task 5 – Final Design: Not applicable.

Task 6 – Environmental Documentation: Not applicable.

Task 7 – Permitting: Not applicable.

D. Construction/Implementation

Task 8 – Implementation Contracting: Prior implementation contracting for this project has included a Request for Proposal (RFP) process and issuance of a purchase order to a landscape architect to develop water efficiency guidelines and specifications in November 2010. This project involves program implementation. It is not a construction project.

Task 9 – Implementation: Implementation of this project will occur after initiation of the Grant Agreement on June 1, 2011.

Materials and/or Design Standards

Average hourly rates and costs/unit used were based on past experience and information obtained from project partners. The project budget by task reflects the expected level of effort required by each task. The Project Team will generally rely on the State of California Model Water Efficient Landscape Ordinance and on Low Impact Development features consistent with the San Diego Regional Water Quality Control Board Municipal Stormwater Permit as a guide.

Implementation Tasks

The Water Authority will adaptively manage this program and may revise tasks in response to changing conditions to ensure program objectives are reached within the allotted schedule and budget. Project subtasks are detailed below.

- ***Subtask 9.1 – Development of Landscape Guidelines and Specifications*.** Develop an integrated set of guidelines combining water efficiency provisions (consistent with the CA Model Water Efficient Landscape Ordinance) and watershed protection provisions (based on Low Impact Design).
- ***Subtask 9.2 – Development of Education/Training Implementation Plan***.
    - *Development of Educational Curriculum and Materials* for *Residential and Professional Series*. Develop new curriculum and materials based on the integrated landscape guidelines in Subtask 9.1. Incorporate existing information and materials from other sources, where feasible.
    - *Development of Certification and/or Recognition Program.* This task includes development of criteria for a regional certification and/or recognition program that builds upon existing industry certification programs. Rely on existing certification programs where applicable (i.e. CLCA, ASLA). Potentially develop a continuing education element for the certification program.
    - *Design of Training*. The project team will design training modules to be taught throughout the county consistent with the curriculum referenced above. Modules/classes will be targeted to specific audiences.
    - Deploy training, monitor performance, and administer certification and/or recognition.
- ***Subtask 9.3 – Development of Technical Assistance Implementation Plan*.** The project team will identify the parameters for technical assistance. Assistance may include, but is not limited to sample irrigation and landscape designs, landscape design workshops, limited site-specific design assistance, "how-to" assistance for do it yourselfers, hand's on demonstrations.
- ***Subtask 9.4 – Development of Marketing/Outreach Plan*.** The project team will develop a Marketing/Outreach Plan and then conduct targeted outreach to audiences that may include, but are not limited to high water users, customers with excessive lawn areas or customers with visible signs of water waste.
- ***Subtask 9.5 – Development of Incentive Criteria*.** The project team will develop incentive criteria and administer issuance of incentives, which may cover design services and materials including, but not limited to: designs, landscape materials (plants, hardware, etc.), and other items.
- ***Subtask 9.6 – Development of Landscape Material Provision Criteria*.** The project team will develop and administer landscape material provisions. Materials may include, but are not limited to landscape materials (plants, hardware, compost, etc.).
- ***Subtask 9.7 – Design and Conduct Evaluation*.** It is anticipated that the project will be undergo a mid-stream assessment (to guide potential adaptive management refinements), and upon conclusion, a final evaluation to determine its effectiveness.

Implementation Submittals	Date	Status
AFTER June 1, 2011		
Landscape Standards and Specifications	January 2012	Underway
Education/Training Implementation Plan	February 2012	Not started
Technical Assistance Implementation Plan	March 2012	Not started
Incentive Criteria	April 2012	Not started
Landscape Material Provision Criteria	June 2012	Not started
Marketing/Outreach Plan	June 2012	Not started

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: Although this project funds incentives, it is not responsible for individual/onsite environmental compliance/mitigation/enhancement. It is the responsibility of the individual site owner/manager to identify environmental compliance/mitigation/enhancements that may apply to them.

F. Construction Administration

Task 11 – Construction Administration: Not applicable.

Project 2: North San Diego County Regional Recycled Water Project

I. Introduction

Project Sponsor

Olivenhain Municipal Water District (OMWD) is the project sponsor for the *North San Diego County Regional Recycled Water Project*.

Project Need

The *North San Diego County Regional Recycled Water Project* will provide for a comprehensive recycled water program by consolidating North San Diego recycled water projects to meet a regional need. Over time, the 11 project partners have developed separate and possibly redundant recycled water systems throughout northern San Diego County. This project will conduct a systems assessment of the recycled water systems of each partner, and develop recommendations for projects that interconnect and maximize use of recycled water within the combined service area. By integrating our recycled water systems throughout the North County subregion, the partners will maximize existing/planned infrastructure and resources while minimizing redundant costs. By working together, the reliability of recycled water supply will be vastly improved. This project enables the partners to ensure that all recycled water produced in the subregion is efficiently and effectively distributed to customers.

Project Purpose

The purpose of the *North San Diego County Regional Recycled Water Project* is to produce a regional recycled water project supported by the 11 project partners. This project will provide a sustainable, reliable, water resource for North San Diego County.

Project Objectives

The *North San Diego County Regional Recycled Water Project* will provide for additional delivery and use of recycled water in North San Diego County through:

- Preparation of a Recycled Water Facilities Plan to consolidate the numerous recycled water projects being developed by 11 project partners into an integrated and comprehensive recycling program;
- Planning, design, and environmental review for delivery of 5,000 AFY of recycled water in North San Diego County; and
- Study of regional seasonal recycled water storage.

Table 3-5 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *North San Diego County Regional Recycled Water Project*.

Table 3-5: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
North San Diego County Regional Recycled Water Project	●	●		●	●				

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder and community involvement and stewardship***. This project will involve an extensive community outreach and education campaign about the benefits of using recycled water for non-potable uses. The project will include a stakeholder working group to help identify and recommend the priority projects implemented by the 11 partners.
- ***B: Effectively obtain, manage, and assess water resources data and information***. This project will collect and assess data related to the recycled water systems within the project partner's combined service areas. As a result, the 11 partners will have access to a consolidated dataset that identifies existing and planned recycled water facilities throughout the region.
- ***D: Develop and maintain a diverse mix of water resources***. This project will identify and implement projects that interconnect and maximize use of recycled water within the partners' combined service areas. The resulting regional system will provide greater water supply availability and reliability (5,000 AFY of recycled water) to all agency partners.
- ***E: Construct, operate, and maintain a reliable infrastructure system***. This project will identify and implement projects that interconnect and maximize use of recycled water within the project partners' combined service areas. Coordination of 11 recycled water systems will maximize the use of current and planned treatment plants and conveyance facilities.

Project Partners

Project partners in the *North San Diego County Regional Recycled Water Project* include: Olivenhain Municipal Water District, Carlsbad Municipal Water District, Vallecitos Water District, Santa Fe Irrigation District, Vista Irrigation District, City of Oceanside, Leucadia Water District, City of Vista/Buena Sanitation District, San Elijo Joint Powers Authority, City of Escondido, and Rincon del Diablo Municipal Water District.

Project Abstract

The *North San Diego County Regional Recycled Water Project* is a plan by North San Diego County water and wastewater agencies to regionalize recycled water systems by identifying new agency interconnections, seasonal storage opportunities and indirect potable water uses that will maximize supplies, reduce wastewater discharges to ocean, potentially reduce energy consumption due to diminished delivery of imported water, and allow recycled water to play an even more significant role in meeting future water needs. Currently, the project is at 0% completion of design.

Linkages and Synergies between Projects

The *North San Diego County Cooperative Demineralization Project* (Project 3 in this proposal) and the *North San Diego County Regional Recycled Water Project* are both being developed to address the regional need for a diversified water portfolio by providing more recycled water. The *North San Diego County Cooperative Demineralization Project* creates additional recycled water treatment capacity, and the *North San Diego County Regional Recycled Water Project* creates the distribution and storage system necessary to deliver the water.

Existing Data and Studies

This project type, scope, and focus is specifically addressed in the Recycled Water Facilities Plan, which is anticipated to be completed in March 2011. In addition, this project type, scope, and focus is identified in the following water master planning documents:

- Olivenhain Municipal Water District. 2010. *Strategic Plan 2010 Update.*
- Santa Fe Irrigation District. August 2005. *Santa Fe Irrigation District Recycled Water Master Plan*.

These documents are contained on a supplementary CD that was submitted with this proposal.

Project Timing and Phasing

The project is a multi-phased project. The design phase in the proposed Work Plan can serve as a roadmap for future engineering and construction activities.

Project Map

Figure 3-3 provides a project site map for the *North San Diego County Regional Recycled Water Project*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

The San Diego County Water Authority will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR. The *North San Diego County Regional Recycled Water Project* will contribute $45,000 to this administrative effort.

A. Direct Project Administration Costs

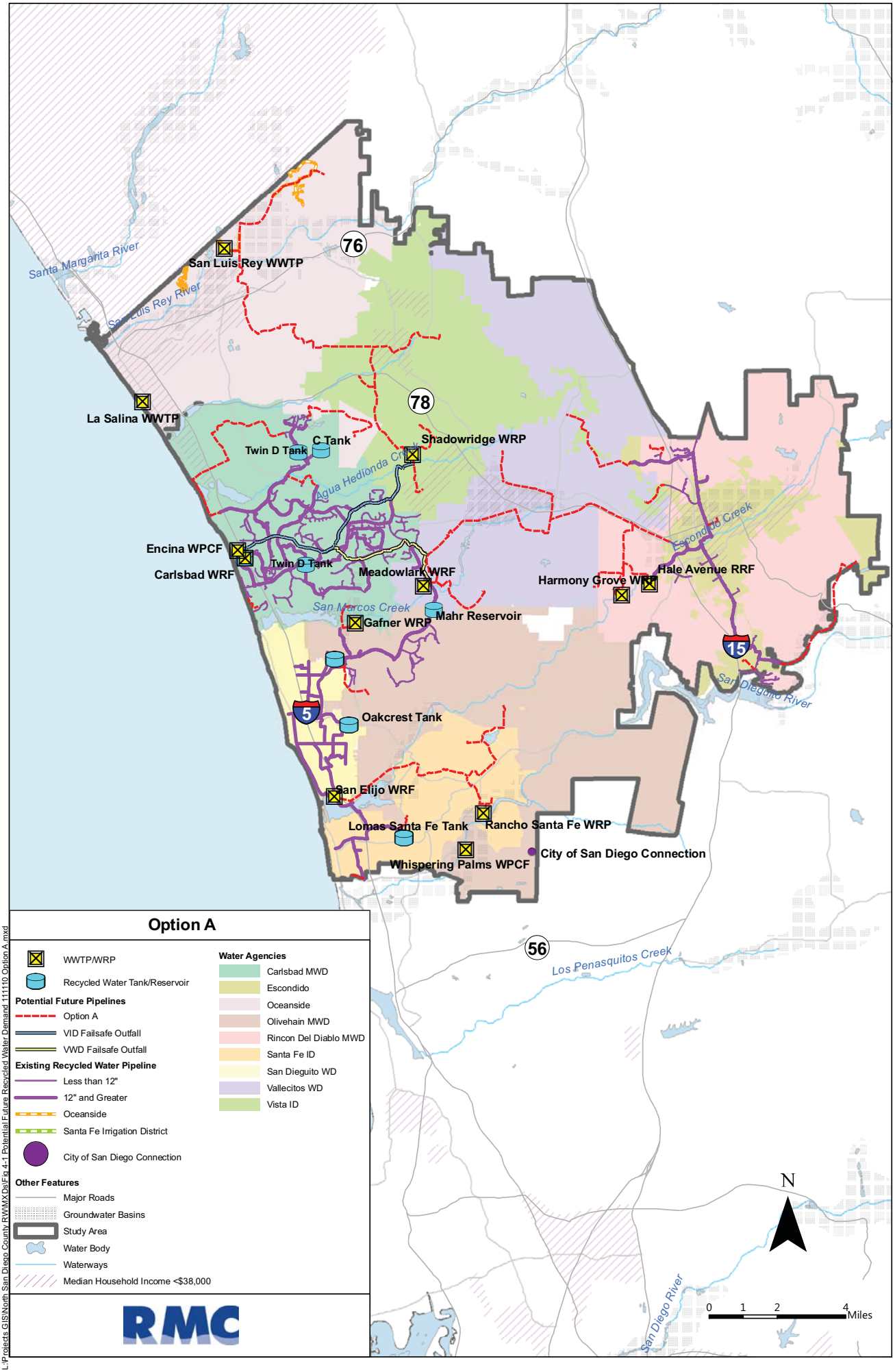
Task 1 – Project Administration: This project will involve project administration after the Implementation Grant Agreement is formalized (after June 1, 2011). Project administration will involve coordinating various project elements with the twelve project partners. The project partners entered into an agreement in June 2010 to utilize the Recycled Water Facilities Master Plan to: analyze individual facilities and projects, to study the ability to interconnect, to maximize recycled treatment facilities and use of recycled water, and to study any potential water quality or physical issues with the comprehensive regional project. In addition, project administration will involve administration, coordination, and review of all project tasks. Completing this task will require OMWD staff time as follows:

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Project Director	60	Not started
Project Manager	180	Not started
Support	160	Not started

Task 2 – Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program (LCP) in accordance with CCR §16421-16439. The OMWD is in process of contracting with an approved third party Labor Compliance Program. Deliverables for this task will include a Labor Compliance Program that is approved by the California Department of Industrial Relations, and an Annual Report that is consistent with the requirements of the approved LCP.

Task 3 – Reporting: All reporting for this project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Figure 3-3: San Diego North Regional Recycled Water Project Map



Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly as determined by Start	Not started
Final Project Completion Report	Upon Project Completion	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: The *Recycled Water Facilities Plan* was completed in March 2011. This plan analyzed existing and proposed recycled water facilities and evaluated each agency's ability to interconnect and maximize the use of recycled water within their combined service areas. Tasks that were undertaken to complete this plan include: reviewing previous studies, reviewing regulatory/water quality considerations, comparing supply and demand, developing alternative concepts, evaluating alternative concepts, summarizing funding options, and preparing the plan. The following data and information were reviewed to complete this plan: Recycled Water Master Plans, Waste Discharge Permits, Annual Recycled Water Supply Reports, Recycled Water Project Implementation Plans, Water and Sewer Master Plans, NPDES Permits, Urban Water Management Plans, Recycled Water Facilities Plans, Outfall Capacity Studies, Asset Management Plans, Recycled Water Agreements, and Recycled Water maps. In addition, recycled water supply and demand forecasts were collected and analyzed in order to complete the plan

The *Engineering Study for Regional Seasonal Recycled Water Storage* will be completed by June 2012. This study will evaluate two regional sites as potential regional seasonal recycled water storage sites. This study will expand upon the regional seasonal storage alternatives identified in the *Recycled Water Facility Plan*. The anticipated sites have been identified previously, but not studied as a regional alternative.

Study Performed	Date	Status
BEFORE June 1, 2011		
Recycled Water Facilities Plan	March 2011	In process
AFTER June 1, 2011		
Engineering Study for Regional Seasonal Recycled Water Storage	June 2012	Not started

Task 5 – Final Design: Design for this project has not yet been completed, and will therefore be completed after June 1, 2011. Completion of the project design is anticipated to occur as follows: 10% conceptual design by December 2011, 30% concept design by September 2012, 50% design by June 2013. This project will not involve final design, and will therefore not include any solicitation efforts.

Design Submittals	Date	Status
AFTER June 1, 2011		
10% Conceptual Design	December 2011	Not started
30% Concept Design	September 2012	Not started
50% Design	June 2013	Not started

Task 6 – Environmental Documentation: Environmental documentation for this project has not been started, and will therefore be completed after June 1, 2011. It is anticipated that a CEQA Initial Study (IS)/NEPA Environmental Assessment (EA) will be completed in order to provide an understanding of environmental impacts at regional seasonal storage sites. Environmental documentation (IS/EA) for this project will be submitted in August 2013.

Environmental Documentation	Date	Status
AFTER June 1, 2011		
CEQA Initial Study/NEPA Environmental Assessment	June 2013	Not started

Task 7 – Permitting: This project will not require any permitting.

D. Construction/Implementation

Task 8 – Construction Contracting: This project will not require construction contracting.

Task 9 – Construction: This project will not involve construction.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: No environmental mitigation or enhancement action or tasks are required as this is a conceptual design project.

F. Construction Administration

Task 11 – Construction Administration: This project will not require construction administration.

Project 3: North San Diego County Cooperative Demineralization Project

I. Introduction

Project Sponsor

San Elijo Joint Powers Authority (SEJPA) is the project sponsor for the *North San Diego County Cooperative Demineralization Project*.

Project Need

The *North San Diego County Cooperative Demineralization Project* is needed to (1) create sustainable and diverse local water supplies, (2) provide salinity and nutrient management to the North San Diego County coastal region, (3) address existing high total dissolved solids (TDS) issues in recycled water (which is currently in excess of requirements in the Water Quality Control Plan for the San Diego Basin 9 [Basin Plan]), (4) divert urban runoff and first flush storm water from the San Elijo Lagoon, a 303(d)-listed water body, (5) divert urban runoff and first flush storm water at the Seascape storm drain (Solana Beach), which has a chronic history exceeding REC-1 water quality bacterial standards, and (6) reduce wastewater discharge to the Pacific Ocean.

Project Purpose

The purpose of the *North San Diego County Cooperative Demineralization Project* is to (1) construct a demineralization facility at the San Elijo Water Reclamation Facility (SEWRF) to increase recycled water production by 560 AFY and allow the SEWRF to accept high-TDS pollutant streams without impacting permitted limits, (2) construct storm water diversion structures to divert two identified sources of polluted runoff to the SEWRF for treatment in the near-term and additional locations in the future, (3) perform a feasibility study for an 1120 AFY brackish to potable water desalination facility, and (4) provide monitoring of water quantity and quality in the San Elijo Lagoon, a 303(d)-listed water body.

Project Objectives

The *North San Diego County Cooperative Demineralization Project* includes the following project objectives:

- Implement cooperative efforts by multiple agencies and stakeholders to provide water education and outreach to over 43,000 residents of North San Diego County.
- Develop 1120 AFY of potable water through brackish water desalination and 560 AFY of recycled water through advanced treatment.

- Construct water infrastructure designed to deliver a local and reliable supply of water to the region.
- Implement facilities to manage the impacts of pollutants to the San Elijo Lagoon, a 303(d)-listed water body, and the Pacific Ocean via the interception and treatment of pollutant loadings at multiple locations.
- Monitor the water quantity and quality of the San Elijo Lagoon.

Table 3-6 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *North San Diego County Cooperative Demineralization Project.*

Table 3-6: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
North San Diego County Cooperative Demineralization Project	●			●	●		●		

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder/community involvement and stewardship***. This project includes efforts by SEJPA and OMWD - in collaboration with the City of Encinitas Clean Water Program, the City of Solana Beach Storm Water Division, and the San Elijo Lagoon Conservancy - to conduct water management outreach to area residents.
- ***D: Develop and maintain a diverse mix of water resources***. This project will develop and maintain a diverse mix of water resources by increasing tertiary treatment capacity at the SEWRF by 560 AFY and studying an increase of potable water capacity by 1120 AFY through desalination of brackish water with ecological consideration.
- ***E: Construct, operate, and maintain a reliable infrastructure system*.** This project will construct facilities to (1) increase recycled water production, (2) provide salinity management for coastal water basins, and (3) ensure a reliable source of recycled water. This project will also help develop facilities to produce potable water locally with ecological consideration.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. This project will implement facilities to intercept and treat high-TDS first-flush storm water and dry weather urban runoff that would otherwise reach San Elijo Lagoon and Pacific Ocean. This project proposes to expand from two storm water capture locations in northern San Diego County to five.

Project Partners

SEJPA, OMWD, and San Elijo Lagoon Conservancy are project partners in the *North San Diego County Cooperative Demineralization Project*, with support from San Dieguito Water District, Santa Fe Irrigation District, Del Mar, Encinitas, and Solana Beach, the Escondido Creek Watershed Alliance, and Caltrans.

Project Abstract

In Southern California, wastewater, brackish water, and urban runoff are high in total dissolved solids (TDS) and other impurities that require advanced treatment to allow beneficial reuse. The *North San Diego County Cooperative Demineralization Project* is focused on developing new local water supplies and managing water quality issues by constructing advanced water treatment facilities at the SEWRF to mitigate high TDS sources and beneficial reuse and studying the feasibility of brackish to potable water desalination in North San Diego County. The project design is estimated at 50% completed.

Linkages and Synergies between Projects

The *North San Diego County Cooperative Demineralization Project* includes the construction of infrastructure to increase recycled water production capacity by 520 AFY. This project is linked to the *North San Diego County Regional Recycled Water Project* (Project 2 in this proposal), which includes efforts to identify new and integrated recycled water projects in North San Diego County. A portion of the projects identified by the North San Diego County Regional Recycled Water Project will most likely be served by recycled water produced as a result of the North San Diego County Cooperative Demineralization Project.

Existing Data and Studies

This project type, scope, and focus is identified in the following plans and studies:

- San Elijo Joint Powers Authority. March 2009. Conceptual Design Report for Flow Equalization/Recycled Water Storage Facility.
- San Elijo Joint Powers Authority. July 2009. Updated Financial Assessment for the Recycled Water System.
- San Elijo Joint Powers Authority. December 2009. San Elijo Recycled Water Project Mitigated Negative Declaration.
- San Elijo Joint Powers Authority. December 2009. San Elijo Water Reclamation Facility: Final Preliminary Design Report, Recycled water Demineralization Project.
- San Elijo Joint Powers Authority. March 2010. Geotechnical Investigation, Proposed Improvements, San Elijo Water Reclamation Facility Encinitas, California.
- San Elijo Joint Powers Authority. August 2010. San Elijo Water Reclamation Facility Chlorine Contact Basin Tracer Study Final Report.
- *Opportunities and Constraints Analysis*, which will be completed in March 2011. Please note that because this document has not been finalized, it is not contained within this proposal.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

This project is NOT a multi-phase project.

Project Map

Figure 3-4 provides a project site map for the *North San Diego County Cooperative Demineralization Project*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

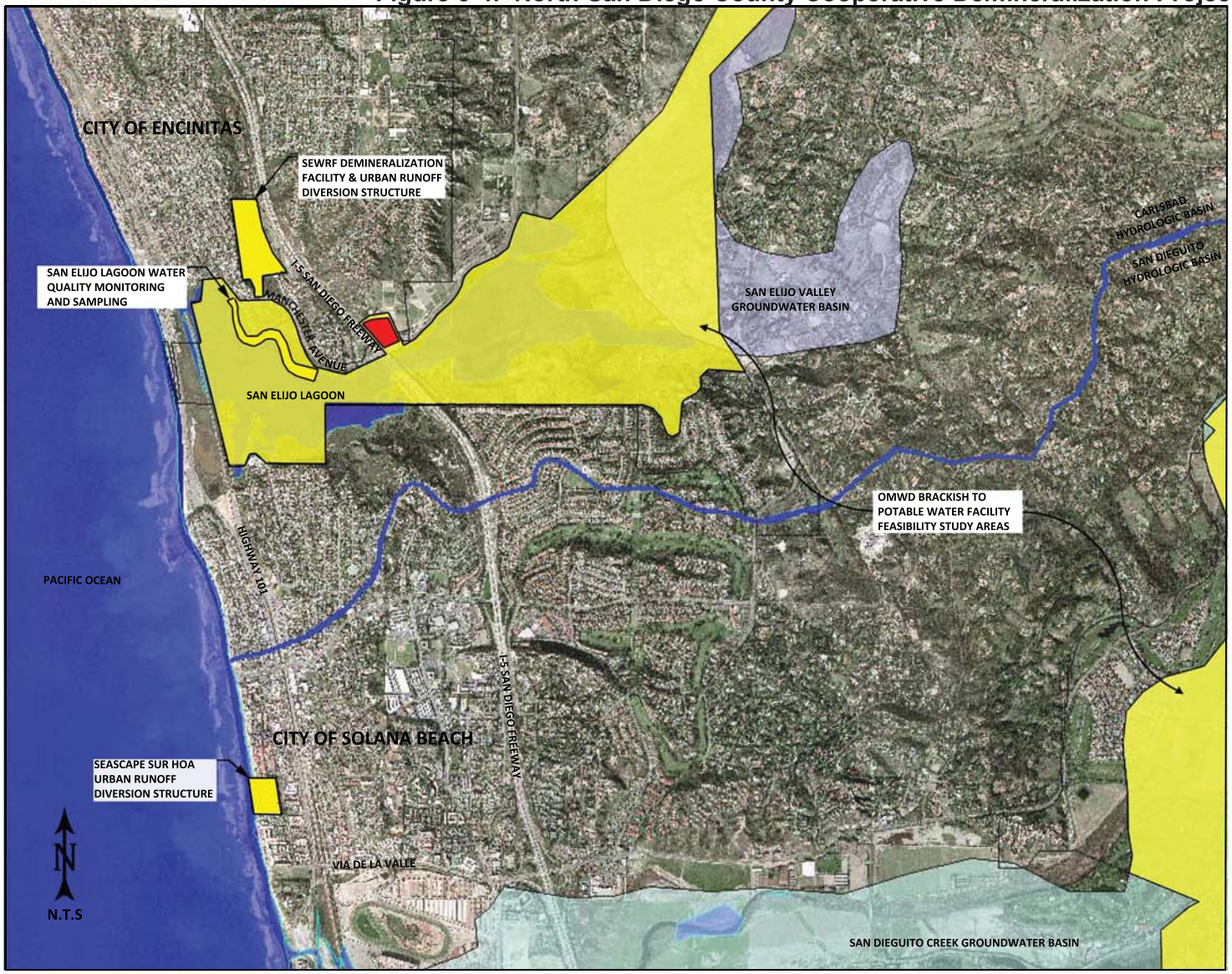
Grant Administration (GA)

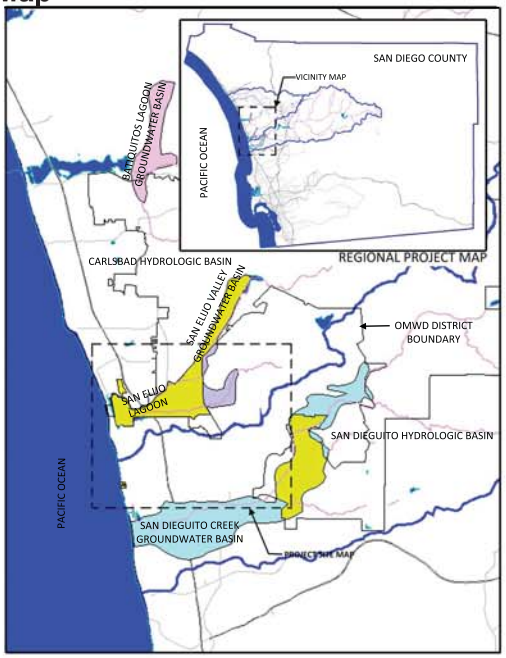
SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR. The *North San Diego County Cooperative Demineralization Project* will contribute $31,500 to these administrative fees.

A. Direct Project Administration

Task 1 – Project Administration: This project will involve project administration before and after the Implementation Grant Agreement is formalized (June 1, 2011). Ongoing project administration for this project will involve coordinating the various project elements with partner agencies through memorandums of understanding (MOUs). SEJPA will implement other necessary project administration tasks; however, those staff costs are not included within the work plan.

Figure 3-4: North San Diego County Cooperative Demineralization Project Map





VICINITY MAP

AFFECTED HYDROLOGIC BASINS
- SAN DIEGUITO HYDROLOGIC BASIN BOUNDARY
- CARLSBAD HYDROLOGIC BASIN BOUNDARY

AFFECTED GROUNDWATER BASINS
- BATIQUITOS LAOON GROUNDWATER BASIN
- SAN ELIJO VALLEY GROUNDWATER BASIN
- SAN DIEGUITO CREEK GROUNDWATER BASIN

AFFECTED IMPAIRED WATER BODIES
- SAN ELIJO LAGOON
- PACIFIC OCEAN

PROJECT LOCATIONS
- PROJECT BOUNDARY

FUTURE PROJECT LOCATIONS
- FUTURE URBAN RUNOFF DIVERSION STRUCTURE BY CALTRANS

NORTH SAN DIEGO COUNTY COOPERATIVE DEMINERALIZATION PROJECT

SAN ELIJO JOINT POWERS AUTHORITY
OLIVENHAIN Municipal Water District
San Elijo Lagoon CONSERVANCY

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Project Manager	20 hours	Ongoing

Task 2 –Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program (LCP) in accordance with CCR §16421-16439. The San Elijo Joint Powers Authority has been in contact with Cal State Compliance and Consulting, a state approved third party LCP contractor, to contract for these services. Cal State Compliance Consulting, which has a State approved LCP program, will be under contract as required to ensure the SEJPA complies with this requirement.

Task 3 – Reporting: All reporting for this project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start	Not started
Project Completion Report	12/31/2012	Not started

B. Land Purchase Easement

The land that will be required for this project was purchased by SEJP in 1965; therefore a land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: This subtask involves preparation of all studies that were completed before initiation of the Grant Agreement in order to assess and evaluate the project.

- The *Conceptual Design Report* was completed on March 23, 2009. This study identified methods and looked at options for relieving flows to the San Elijo Ocean Outfall (SEOO), which is shared by the City of Escondido and the SEJPA, including advanced water treatment.
- A *Financial Assessment* was completed on July 12, 2009. The financial assessment utilized historical financial and usage data to identify the existing and projected revenue streams of the SEJPA's recycled water system.
- The *Preliminary Design Report (PDR)* was completed on December 1, 2009. The PDR utilized SEWRF secondary effluent constituent levels, data on specific manufacturer MF/UF skids, and permit requirements to identify and analyze (1) the Source water quality and treatment objectives, (2) the appropriate treatment train and parameters, (3) connections to the existing facility, (4) electrical compatibility, and (5) the architectural and structural requirements of the system.

  The PDR included a *Geotechnical Investigation* for the project (completed April 24, 2010). This investigation collected soil properties, subsurface properties, and seismic data within the project area in order to identify the existing soil, subsurface, and seismic conditions and make recommendations on site preparation, excavations and shoring, fill placement and compaction, import soils, foundations, retaining wall lateral earth pressures, subterranean basins, preliminary pavement designs, construction operation, and potential limitations.

  Laboratory fees were incurred by the SEJPA during preliminary design. These fees went toward laboratory analysis of demineralization feed water that assessed the concentrations of constituents-of-interest, such as phosphorus. Testing was concentrated during preliminary design, but may continue into the future and will be incurred as required or requested by the engineer or other consultants.

- The *San Eljio Water Reclamation Facility (SEWRF) Chlorine Contact Basin Tracer (CCT) Study Final Report* was finalized on August 26, 2010. This report collected contact time data for the existing chlorine contact tank and used a Dye Tracing method to assess the modal contact time of the existing CCT at 3.02 MGD of flow. The purpose of the study was to determine the ultimate flow that could be run through CCT and maintain the required chlorine residual to conform with Title 22 requirements.
- An *Opportunities and Constraints Analysis* will be completed in March 2011 to identify fatal flaws for a brackish to potable water desalination facility.
- *Loan Assistance* was provided by Kennedy/Jenks Consultants to prepare a Clean Water State Revolving Fund (SRF) loan packet and provide additional coordination with the State Water Resources Control Board (SWRCB) as necessary.

Several additional studies will need to be completed as part of the project:

- The *North County Brackish-to-Potable Water Feasibility Study* that will be completed by December 15, 2012. This study will collect data regarding sustainable yields from source wells, ecological and hydrogeological information, and water quality data in affected groundwater basins in order to perform tasks relating to the feasibility of constructing a brackish to potable water desalination facility. This study will be a project deliverable.
- The *San Eljio Lagoon Water Quality Report* that will be completed by December 15, 2012. This report will monitor water quality data during the life of the project at numerous locations in the Escondido Creek. This report will be a project deliverable.

Study Performed	Date	Status
BEFORE June 1, 2011		
Conceptual Design Report	March 2009	Complete
Financial Assessment	July 2009	Complete
Preliminary Design Report (PDR)	December 2009	Complete
Geotechnical Investigation	April 2010	Complete
SEWRF Chlorine Contact Basin (CCT) Tracer Study Final Report	December 2010	Complete
Opportunities and Constraints Analysis	March 2011	In Process
Loan Assistance	December 2010	Complete
AFTER June 1, 2011		
North County Brackish-to-Potable Water Feasibility Study	December 2012	Not started
San Eljio Lagoon Water Quality Report	December 2012	Not started

Task 5 – Final Design: As of June 1, 2011 the project will be at 60% design status. The 10% conceptual design for the project was completed in September 2009. The 30% conceptual design for the project was finalized in December 2009, the 60% design for the project will be completed in January 2011, and the 90% pre-final design will be completed in May 2011. Design efforts up to this point prompted solicitation for pre-selection of the filtration membrane by December 15, 2010.

Completion of the final project design is anticipated to occur in September 2011. The final design for this project is currently under contract. Final design documents will include drawing sets and technical specifications for construction of the project.

Design Submittals	Date	Status
BEFORE June 1, 2011		
10% (conceptual) Design	September 2009	Complete
30% (concept) Design	December 2009	Complete
60% Design	January 2011	Not started
90% (pre-final) Design	May 2011	Not started
Membrane Pre-selection	December 2010	Underway
AFTER June 1, 2011		
100% (Final) Design	September 2011	Not started

Task 6 – Environmental Documentation: This project has been analyzed in an Initial Study/Mitigated Negative Declaration (IS/MND) (CEQA-Plus) document that was completed and finalized in December 2009. The final document was adopted by resolution in December 2010. This document identified the environmental impacts of proposed construction for the project per applicable state and federal environmental laws, and detailed mitigation efforts required to offset those impacts. The CEQA-Plus document also outlined a Mitigation Monitoring Program (MMP) that requires two biological mitigation efforts. These mitigation efforts outlined within the MMP require that SEJPA conduct a Biological Survey Report, which will be completed prior to project construction.

Environmental Documentation	Date	Status
BEFORE June 1, 2011		
Initial Study/Mitigated Negative Declaration Environmental (CEQA-Plus)	December 2009	Complete
AFTER June 1, 2011		
Biological Survey Report	TBD	Not started

Task 7 – Permitting: Currently, the SEJPA is working to a Coastal Development Permit for the project. This permit is anticipated on February 1, 2011, and was required to obtain approval from the City of Encinitas Planning Commission, which is authorized to make a final determination on coastal development, to construct facilities. Prior to implementation of the project, SEJPA will obtain a Revised Master Recycled Water Permit for the SEWRF to ensure that the plant's recycled water treatment train conforms to Title 22.

Permit	Approval Date	Status
BEFORE June 1, 2011		
Coastal Development Permit	2/01/2011	Underway
AFTER June 1, 2011		
Master Recycled Water Permit No. 2000-10	July 2011	Existing permit to be modified.

D. Construction/Implementation

Task 8 – Construction Contracting: All construction contracting for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011). Construction contracting will include advertisement for bids and a mandatory pre-bid meeting, preparation and distribution of addenda, bid opening, evaluation of bids and award of contract. Formalization of the Notice to Proceed is estimated to occur in September 2011.

Task 9 – Construction: All construction for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011).

Building Materials and/or Construction Standards

The building materials will have been chosen during final design using good asset management principles – meaning, the materials will provide the desired level of service at the lowest life-cycle cost. Construction occurring after June 1, 2011 will conform to the specifications prepared for the project by a licensed Civil Engineer. These specifications include project-specific construction standards and also require the contractor to conform to applicable local, state, and federal laws. The specific codes identified in the preliminary design report for this project include the California Building code (CBC), the National Electric Code (NEC), the Uniform Plumbing code (UPC), the Uniform Mechanical Code (UMC), the California Fire Code (CFC), and CAL-OSHA (California Occupational Safety and Health) requirements. Additionally, the Contractor will be required to conform to the SEJPA Contractor Safety Program or their own safety program. Where there are conflicting requirements, the Contractor will be required to conform to the most stringent requirement.

Construction Tasks

Construction tasks for this project will include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below:

- ***Subtask 9.1 Mobilization and Site Preparation***: Mobilization and site preparation includes ordering of equipment, mobilization of contractor equipment and materials, and preparation of physical site (including saw cutting, over excavation, pipeline inspection, and compaction of materials.
- ***Subtask 9.2 Project Construction***: Project construction includes foundation work, construction of canopy structures and diversion structures, installation of equipment, installation of mechanical piping, installation of electrical and instrumentation equipment, and connecting the new system to the existing electrical and controls systems.
- ***Subtask 9.3 Performance Testing and Demobilization***: Project performance testing and demobilization will include testing and demobilization procedures that will be identified in the final design documents.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: Environmental compliance for this project will occur prior to construction of the project, which will be after June 1, 2011. Mitigation efforts that are required per the final Initial Study/Mitigated Negative Declaration (CEQA-Plus) and will be implemented during construction include:

- To avoid direct and indirect impacts to migratory bird species protected under the Migratory Bird Treaty Act, a nesting bird survey, identification, and buffering shall be implemented.
- To avoid indirect impacts to the California gnatcatcher, a pre-construction survey, identification, and buffering shall be implemented.
- Construction-related noise and dust shall be minimized through implementation of BMPs.

F. Construction Administration

Task 11 – Construction Administration: This task involves administration, coordination, and review of the construction contract and all other related construction tasks. The San Elijo Joint Powers Authority (SEJPA) will implement other necessary project administration tasks. However, those staff costs are not included within the work plan.

Project 4: Rural Disadvantaged Community (DAC) Partnership Project

I. Introduction

Project Sponsor

The Rural Community Assistance Corporation (RCAC) is the project sponsor for the *Rural DAC Partnership Project*.

Project Need

Drinking water systems that serve disadvantaged communities (DACs) often lack both access to much needed infrastructure financing and the resources to adequately maintain existing system facilities. As a result, these systems face significant challenges in complying with long standing and new drinking water rules (U.S. EPA 2007).

Three major problems that impede the sustainability of a small community water system include: (1) Contamination of drinking water source water from wastewater intrusion, agricultural influences, and/or contaminant spills from industrial activities; (2) Seasonal weather changes resulting in floods or droughts require design options to bypass treatment during rain and storm events and identification of alternative water supplies (including water reuse sources) to increase capacity during droughts; and (3) Deteriorating collection and distribution systems compromise source water quality and increase the cost of water treatment (U.S. EPA 2007).

Rural communities within the San Diego IRWM Region unincorporated areas have water quantity and quality issues exacerbated by climate change, poor economies, and lack of community expertise. Inadequate water supply to support existing communities is a public health risk. The majority of drinking water maximum containment level (MCL) violations occur with small public water systems. Further, inadequate wastewater treatment results in unplanned discharge events.

There is not enough available funding to meet the needs of rural DACs. The California Department of Public Health (CDPH) has 97 small (less than 10,000 population) systems located in San Diego County on its 2010 State Revolving Fund (SRF) Priority Project Funding list. The State Water Resources Control Board (SWRCB) has a similar lengthy list of communities requesting funding from the Clean Water SRF for wastewater improvements.

Rural DACs in the San Diego IRWM Region are faced with water supply inadequate to support existing connections. It is costly to provide supplemental treatment processes to improve the water quality of contaminated drinking water source waters. It is difficult for small DAC drinking water and wastewater systems to afford improvements because they have fewer ratepayers to share the costs. Further, disadvantaged rural communities lack technical expertise and financial stability to access and comprehend funding programs.

Project Purpose

The goal of the *Rural DAC Partnership Project* is to provide funding to address inadequate water supply and water quality affecting rural DACs, including tribal communities. The project will reduce potential for high public health risks in water and/or wastewater systems. The project will promote environmental justice in rural communities by providing outreach to rural DACs for available infrastructure projects, while promoting IRWMP goals.

The *Rural DAC Partnership Project* will organize a stakeholder committee to identify and select a minimum of two rural DAC projects that address critical water quality or quantity infrastructure improvements. Emphasis will be given to projects ready to be constructed.

Project will assist rural DACs, including tribal communities, with project coordination and oversight. RCAC will utilize other funding programs to provide capacity and technical development support to promote sustainability. Green technologies will be encouraged. RCAC has created a Green Infrastructure Guide for small rural DACs promoting conservation, energy efficiency and renewable energy sources.

Project Objectives

The *Rural DAC Partnership Project* seeks to accomplish the following objectives:

- Recognize and support rural DACs, including tribal communities, in implementing projects that will solve critical water or wastewater system issues. Emphasis will be given to systems lacking safe and reliable delivery of drinking water or deficient wastewater collection and treatment.
- Provide outreach and Prop 84 funding to DACs, including tribal communities, to achieve capacity development and sustainability. Support solutions that address public health risks found in small DACs providing water and/or wastewater services.
- Outreach to rural DACs to promote capacity development, sustainable infrastructure, and green operations. To support environmental justice, provide outreach to rural DACs which are not able to access available resources that are available to them.

Projects that address conservation of groundwater and surface water supplies, water reuse and/or regionalization will be priorities for rural DAC project selection. Efficient use of finite water supplies and energy resources will be incorporated into DAC projects when appropriate and affordable.

Sustainability will be a priority in the development of DAC funded projects. RCAC will leverage sustainability with other state, federal and local programs to provide water board and manager training, operator training, and assist when needed with tasks like selecting the right engineer for infrastructure improvements.

Table 3-7 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Rural DAC Partnership Project.*

Table 3-7: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Rural DAC Partnership Project	●			●	●		●		

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder/community involvement and stewardship***. Selection of DAC projects for funding will be decided by stakeholder/ community decision makers with additional educational meetings to inform citizens of the importance of environmental stewardship emphasizing conservation, renewable energy, and utility efficiency.
- ***D: Develop and maintain a diverse mix of water resources***. Projects that address conservation of groundwater and surface water supplies, water reuse and/or regionalization will be priorities during rural DAC project selection Efficient use of finite water supplies and energy resources will be incorporated into DAC projects when appropriate and affordable.
- ***E: Construct, operate, and maintain a reliable infrastructure system***. Sustainability will be a priority in the development of DAC funded projects. RCAC will provide water board and manager training, operator training, and assist when needed with tasks like selecting the right engineer for infrastructure improvements. RCAC will leverage sustainability with other state, federal and local programs.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. RCAC has created a 'Green Infrastructure Guide' for DACs with the intent of limiting pollution and environmental stressors due to aging infrastructure. Using this guide and other reputable guidance during project development will help assure that new infrastructure supports environmentally sound and efficient projects.

Project Partners

Project partners in the *Rural DAC Partnership Project* include: County of San Diego, California Rural Water Association, Native American Environmental Protection Coalition, U.S. Department of Agriculture (USDA) Rural Development, U.S. Environmental Protection Agency (USEPA) Region 9, Indian Health Services, and Rural Community Assistance Partnership.

Project Abstract

RCAC will manage the Prop 84 grant funds to address inadequate water supply and water quality in rural DACs, including tribal communities, with populations less than 10,000. DACs will be selected based on 2000 Census or already recognized income data.

RCAC will lead a representative group of stakeholders and agencies, including a representative of the San Diego IRWM Regional Advisory Committee (RAC), to solicit and select rural DACs for funding of critical infrastructure improvement projects. Rural DACs will be contacted for eligible projects as well as agencies for DACs in non-compliance with local, state, and federal agencies. Criteria for selection will be based on the following factors: 1) public health risks, 2) environmental justice, 3) multiple benefits, 4) affordability and sustainability, 5) incorporation of green technologies. Opportunities to merge related projects will be evaluated. Projects will be selected from both tribal and non-tribal rural DACs. Preference will be given to DAC projects that are ready to be constructed. In every case, RCAC will look at other available funding resources to leverage Prop 84 dollars.

RCAC will provide DACs with outreach, program information, assisting with project scope and readiness, project documentation for funding, assistance with engineering and contractor selection, project oversight, and disbursement of individual DAC project payments. To extend Prop 84 dollars, RCAC will provide supplementary capacity development, training, and technical assistance to support project sustainability utilizing existing RCAC programs.

RCAC is a certified Community Development Financial Institution (CDFI) and will be responsible for disbursements for selected DAC projects. Reporting process for the DAC projects will, at a minimum, include required reporting to receive Prop 84 grant funds. Work will be verified by RCAC before payments are made. RCAC will provide written quarterly reports to the San Diego IRWM program and will be available to report directly to the RAC if requested.

Typical project types implemented recently by RCAC to address inadequate water supply and water quality in rural DACs include the following. The proposed *Rural DAC Partnership Project* would select and implement two or more similar projects.

- *Sample Project 1: MGB Well Rehab and Treatment Plant Renovation*. Project would modify sole source well for increased production and replacement of iron/manganese treatment that has never worked. Source does not currently meet existing demands; the community is rationing water supply. Chlorine residuals are not maintained. Untreated water is red-colored. Provides direct water supply and water quality benefits to population of 50 (17 homes) tribal members. Total estimated cost of $251,000.
- *Sample Project 2: SCWWD Robbins Wastewater Rehabilitation*. Project would replace existing wastewater treatment system with package recirculating bed filters. The existing filters are failing, leading to excessive discharge nitrate levels and the possibility of sewer overflows. Provides direct wastewater benefits to population of 350-450 (93 connections). Total estimated cost of $566,000.
- *Sample Project 3: LCB Surface Water Treatment and Upgrades*. Source is untreated surface/spring water. Project includes installing slow sand filtration, disinfection, and solar power equipment on surface/spring source for compliance with drinking water regulations and to reduce risk of waterborne illness. Project includes security measures to project equipment. Provides direct water supply and water quality benefits to population of 29 (13 homes) tribal members. Total estimated cost of $352,000.

- *Sample Project 4: HB Water Booster Pump Station*. Project would construct a new booster station and transmission pipeline to supply water to storage tanks currently being supplied by tanker trucks. Provides direct water supply benefits to population of 350 (70 connections). Total estimated cost of $90,000.
- *Sample Project 5: SJ Well Replacement and Storage*. Project would construct a new well to replace wells contaminated with nitrates. Project would include transmission piping and interconnection for redundancy. Provides direct water supply benefits to population of 300 (67 farm worker units). Total project cost of $3.7 million; Phase 1 involving the new well and disinfection treatment has estimated cost of $550,000.
- *Sample Project 6: COF Wastewater System Improvements*. Project would construct improvements to reduce inflow and infiltration in a wastewater treatment system. The operator has received a Cease and Desist Order for discharging to nearby surface waters at 15:1; permit states 100:1. Provides direct wastewater benefits to a population of 1460 (660 connections). Total project cost of $5.9 million; Phase 1 provides for the headworks pump station at an estimated cost of $470,000. The existing headworks station is prone to flooding, did not provide grit removal and has confined space safety requirements.

Linkages and Synergies between Projects

The *Rural DAC Partnership Project* supports the goals of the San Diego IRWM Plan, with emphasis on solutions, outreach, and environmental justice for rural DACs. Through RCAC outreach to DACs, information on the overall San Diego IRWM program and any selected projects that may benefit the DAC will be distributed. For example, data obtained in the *Sustainable Landscapes Program*, *Regional Water Data Management Program*, *Nutrient Management in the Santa Margarita River Watershed,* and the *San Diego Regional Water Quality Assessment and Outreach Project* that may help DACs implement required source water assessment and source water protection programs.

The Rural DAC Partnership Project also supports:

- USEPA Region 9 primacy regulatory responsibilities for Indian Tribes.
- CDPH primacy regulatory responsibilities.
- SWRCB's Small Community Wastewater Strategy which promotes strategies to assist small and/or disadvantaged communities with wastewater needs.
- Low income projects targeted by the Health and Human Services and USDA Rural Development.
- Indian Health Services public health goals.

RCAC partners with agencies to achieve their goals of assisting rural DACs with infrastructure improvements and protection on public health.

Project Timing and Phasing

The *Rural DAC Partnership Project* is not a phased project. Each DAC project selected will be implemented independent of other selected DACs.

Existing Data and Studies

The project selection process for the project will utilize the following plans and studies:

- Rural Community Assistance Corporation. November 2010. *RCAC's Rural Review.*
- State Water Resources Control Board. September 2007. 2007 Statewide Competitive Project List: Small Community Wastewater Grant Program.
- Trageser, Claire. January 2010. *No Solutions for Rural Water Pollution Problem.* Voice of San Diego: January 14, 2010.
- US EPA. September 2002. The Clean Water and Drinking Water Infrastructure Gap Analysis.

- US EPA. March 2008. Investing in a Sustainable Future: Drinking Water State Revolving Fund 2007 Annual Report.
- US EPA. September 2007. Small Drinking Water Systems: State of the Industry and Treatment Technologies to Meet the Safe Drinking Water Act Requirements.
- White, Christine. State of California Revolving Fund CWSRF Program: State Fiscal Year 2010/2011 Project Priority List.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Map

Figure 3-5 provides a project site map for the *Rural DAC Partnership Project*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR. The *Rural DAC Partnership Project* will contribute $15,000 to this administrative effort.

A. Direct Project Administration Costs

Task 1 – Project Administration: This task involves project administration, contract administration, and coordination with project partners. A Project Manager, Project Support, and Supervisor from RCAC will contribute to fulfilling this task, and will also be responsible for producing reports and other deliverables to the project partners.

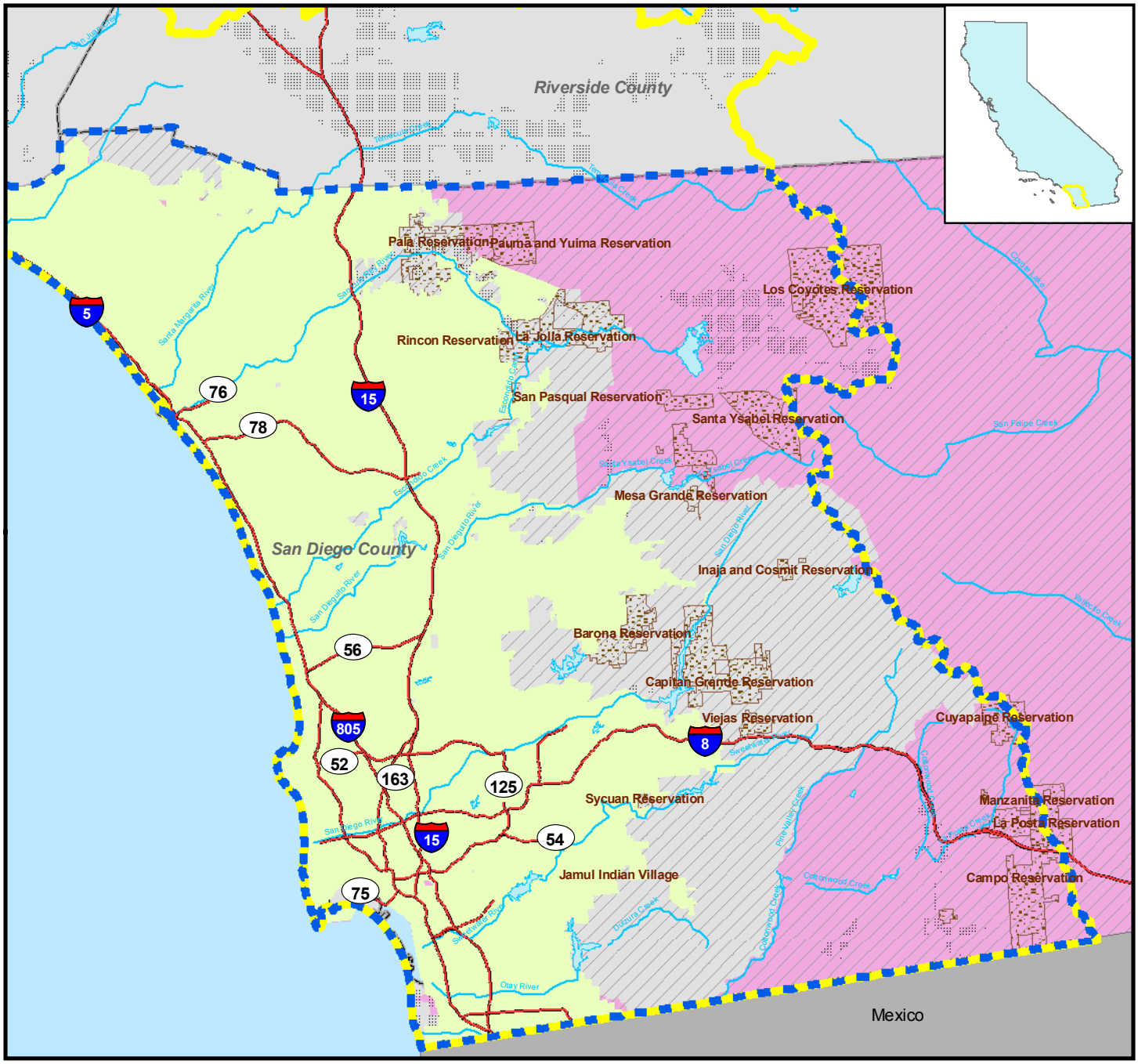
Labor Category	Level of effort	Status
After June 1, 2011		
RCAC Project Manager	95 hours	Not started
RCAC Project Support	29 hours	Not started
RCAC Supervisor	12 hours	Not started

Task 2 – Labor Compliance Program: Projects that will be completed as part of the *Rural DAC Partnership Project* have not yet been selected, and will be selected as part of Task 4 (see below for details). As such, it is not yet known if this project will require a Labor Compliance Program (LCP). However, if an LCP is required, one will be completed in accordance with CCR §16421-16439 and will be submitted to the California Department of Industrial Relations for review and approval prior to commencement of any activities that would require an LCP.

Task 3 – Reporting: All reporting for this project will occur after initiation of the Implementation Grant Agreement (after June 1, 2011). In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	January 2012	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start date	Not started
Project Completion Report	January 2014	Not started

Figure 3-5: Rural Disadvantaged Community Partnership Project Map



Legend

- Rural Disadvantaged Community Partnership Project
- San Diego County Water Authority
- Unincorporated County Lands
- Groundwater Basins
- Median Household Income <$38,000
- Tribal Lands
- San Diego IRWM Region
- Funding Area Boundary
- Waterbody
- River
- Freeway
- Mexico
- County

Note: Projects will be selected from low income rural communities or tribal communities located outside of the San Diego County Water Authority Boundary but within the San Diego IRWM region.

N

0 2.5 5 10
Miles

RMC

U.S. Census Bureau, 2000 Census, Median Household Income by Census Tract, Available: http://www.sandag.cog.ca.us/resources/maps_and_gis/gis_downloads/admin.asp
Tribal Lands, Available: http://www.sangis.org/Download_GIS_Data.htm

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: The following provides a list of necessary studies that will be completed in order to assess and evaluate the project. Deliverables that will be a result of this task include: a technical memorandum on selection process and outcomes, and DAC project-specific reports as applicable.

- A *Disadvantaged Communities Project Assessment and Selection Study* will be performed by January 2012. This study will involve organizing a committee of local DAC stakeholders, soliciting for critical water quantity and/or quality projects from rural DACs, finalizing project selection criteria, selecting two or more projects for funding, evaluating other available funding resources to leverage Proposition 84 dollars, providing outreach and program information, and assisting with project scope, readiness, and project documentation for funding.
- *Disadvantaged Community Project Planning* (as required) will be completed, if necessary, by June 2012. This assessment/evaluation may consist of feasibility studies and/or preliminary engineering studies as needed to evaluate options and provide recommendations and cost estimates. The preliminary engineering study or report provides the basis for design. Planning requirements for each DAC project will be determined during DAC project selection. The RCAC will provide capacity development, training, and technical assistance to support project sustainability utilizing existing RCAC programs.

Study Performed	Date	Status
AFTER June 1, 2011		
DAC Project Assessment and Selection	January 2012	Not started
DAC Project Planning, as Required	Est. June 2012	Not started

Task 5 -- Final Design: Completion of the final project design will be determined based on DAC project selection (Task 4). Design required for sample projects include the following:

- *Sample Project 1: MGB Well Rehab and Treatment Plant Renovation.* Project design would include design drawings and specifications for rehabilitation of a ground water well and iron and manganese treatment equipment. Rehabilitation efforts include washing and scrubbing well casing to increase production.
- *Sample Project 2: SCWWD Robbins Wastewater Rehabilitation.* Project design would include design drawings and specifications for installation of package recirculating bed filters, associated piping and valves, monitoring equipment and alarms.
- *Sample Project 3: LCB Surface Water Treatment and Upgrades.* Project design would include design drawings and specifications for treatment facilities to include slow sand filtration and sodium hypochlorite disinfection, wood structure building to house equipment, and solar power equipment to operate the disinfection injection pump and alarm system.
- *Sample Project 4: HB Water Booster Pump Station.* Project design would include design drawings and specifications for a booster pump station and 6-inch transmission pipeline. The pump station will include wood structure building with concrete floor, access door and pump access through roof, two pumps, piping and valves, lighting, alarm system, emergency power capability and security measures.
- *Sample Project 5: SJ Well Replacement and Storage.* Project design would include design drawings and specifications for a new ground water well including site layout, well drilling requirements, casing and seal specifications, well head details, pump selection and placement, piping, valves, meter, well performance testing, electrical controls and alarms and auxiliary power capability.

- *Sample Project 6: COF Wastewater System Improvements.* Project design would include design drawings and specifications for a new above grade headworks pump station including a multi-level structure, pumps, piping, grit removal system, electrical controls, alarms and security measures.

Design Submittals	Date	Status
AFTER June 1, 2011		
100% (Final) Design	Est. October 2012	Not started

Task 6 – Environmental Documentation: CEQA, NEPA, and other required environmental documentation will be addressed during the DAC project selection (Task 4). Environmental documentation required for sample projects may include the following:

- *Categorical Exemptions* which may be used for the sample projects above include, but are not limited to, the following:
  - CEQA Guidelines §15301-Existing Facilities, which provides exemption from CEQA documentation for "operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment…"
  - CEQA Guidelines §15302-Replacement or Reconstruction, which provides exemption for "replacement or reconstruction of existing structures and facilities…"
- *Negative Declaration* or *Mitigated Negative Declaration* may be prepared for the sample projects above if the lead agency determines that the selection project(s) will not have a significant effect or will incorporate revisions/mitigation measures to avoid or reduce the effects to a point where no significant effects would occur.

Environmental Documentation	Date	Status
AFTER June 1, 2011		
CEQA/ NEPA and other environmental documentation	Est. January 2013	Not started

Task 7 – Permitting: All required permitting will be addressed during the DAC project selection (Task 4). Because it is unclear at this time what permits may be needed for the selected project(s), these activities are not included in the Work Plan or Budget.

D. Construction/Implementation

Task 8 – Construction Contracting: All construction contracting for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011). Construction contracting for this project will include solicitation of bids and award of contract by April 2013. Construction will begin when the contractor receives a Notice to Proceed from the Project Manager.

Construction will occur in accordance with contract requirements, and any changes must be by contract amendment. Contractor will file a Notice of Completion with the Project Manager when construction is complete.

Construction Submittals	Date	Status
AFTER June 1, 2011		
Notice to Proceed	Est. June 2013	Not started
Notice of Completion	Est. December 2013	Not started

Task 9 – Construction: All construction for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011).

Building Materials and/or Construction Standards

The building materials and computational methods for construction will be determined based on DAC project selection. Projects will be constructed in accordance with all current applicable laws, standards and regulations, including the American Water Works Association standards for materials, construction and testing of pipe, storage tanks, pumps, and valves; NSF approval for materials that come in direct contact with drinking water; California Department of Transportation Standard Specifications for materials, construction and testing; International or California Building Code, California or National Plumbing Code, California Electrical Code, Standard Methods for laboratory testing, California or federal OSHA standards for safety equipment and design requirements.

Construction Tasks

Construction tasks for this project are anticipated to include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below.

- ***Subtask 9.1 Mobilization and Site Preparation:*** All construction documentation will be requested for each DAC project that includes construction. Activities undertaken as part of this subtask could potentially include ordering of equipment, mobilization of construction equipment and materials, and preparation of physical site (including excavation, inspection, grading, and compaction).
- ***Subtask 9.2 Project Construction:*** All construction documentation will be requested for each DAC project that includes construction. Construction activities may include grading and site preparation, trenching, installation of underground pipes and equipment, pouring of concrete, well drilling, installation of chemical treatment tanks, installation of pumps and valves and installation of small structures or housings.
- ***Subtask 9.3 Performance Testing and Demobilization:*** Performance testing will be implemented per industry standards and applicable State and local regulations. Demobilization may include removal of construction equipment and restoration of staging areas to former character.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: All tasks carried out for this project will be conducted in a manner that ensures environmental compliance with CEQA, NEPA, and all other relevant environmental statutes. Because it is unclear at this time what environmental mitigation may be needed for the selected project(s), these activities are not included in the Work Plan or Budget.

F. Construction Administration

Task 11 – Construction Administration: This task involves administration, coordination, and review of the construction contract and all other related construction tasks. This task will require labor from a RCAC Project Manager to oversee the DAC community, review progress, and approve payouts. This task will also require labor from a DAC Project Manager to manage the construction contract. The level of effort needed to complete this task will depend on the DAC project selected and will be addressed after selection of the DAC projects. The Contract Administration budget was based on 8% of the estimated construction cost in the range of $330,000 - $320,000.

Labor Category	Date	Status
AFTER June 1, 2011		
RCAC Project Manager	March 2013	Not started
DAC Project Manager	March 2013	Not started

Project 5: Lake Hodges Water Quality and Quagga Mitigation Measures

I. Introduction

Project Sponsor

The San Diego County Water Authority is the project sponsor for the *Lake Hodges Water Quality and Quagga Mitigation Measures* project.

Project Need

The *Lake Hodges Water Quality and Quagga Mitigation Measures* project is needed to protect recently constructed infrastructure at Lake Hodges, a nearly $200 million investment, that reduces our reliance on imported water, increases our ability to generate power locally, and improves our ability to deliver water within San Diego County during a significant water supply outage. The project addresses the issues of supply usability due to significantly impaired water quality and the effects of Quagga mussel presence on facility and reservoir operation.

Project Purpose

The *Lake Hodges Water Quality and Quagga Mitigation Measures* project's purpose is to evaluate methods to improve water quality within Lake Hodges, prioritizing implementation of those methods and test available technologies through a pilot study or studies to determine potential for full scale implementation success. The project will also assess vulnerabilities to reservoir and facility operation from Quagga mussel invasion in Lake Hodges, Olivenhain Reservoir, San Dieguito Reservoir and attached facilities, prioritize implementation, and design and construct a limited number of control measures.

Project Objectives

The *Lake Hodges Water Quality and Quagga Mitigation Measures* project seeks to accomplish the following objectives:

- Involve local stakeholders to capitalize on complementary project efforts that will address long standing water quality and environmental issues in Lake Hodges.
- Make technical information available, such as product evaluation or control measures implemented, to agencies who may be considering similar applications.
- Decrease reliance on imported water supplies by maintaining infrastructure required to deliver Lake Hodges water within the region.
- Evaluate methods to improve Lake Hodges water quality and protect water treatment infrastructure reliability.
- Produce a plan to decrease levels of pollutants in Lake Hodges that contribute to its 303(d) listed water body status.
- Control the quagga mussel population within the Lake Hodges Pumped Storage facility and evaluate the ability to reduce numbers of viable quagga mussels in connected reservoirs.

Table 3-8 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Lake Hodges Water Quality and Quagga Mitigation Measures* project.

Table 3-8: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Lake Hodges Water Quality and Quagga Mitigation Measures		●	●	●	●		●		

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- **B: *Effectively obtain, manage, and assess water resources data and information***. *This project would compile water quality and invasive species control data related to management of the Lake Hodges reservoir*.
- **C: *Further the scientific and technical foundation of water management***. Response to and control of quagga mussel infestations in western US waters is a relatively new issue. Results of this project may be helpful to other water agencies who are dealing with or will deal with this or similar issues.
- **D: *Develop and maintain a diverse mix of water resources***. Connecting Lake Hodges to the Water Authority's delivery system increases local supply region-wide and helps to diversify our water supply.
- **E: *Construct, operate, and maintain a reliable infrastructure system***. Exploring ways to increase water quality through this project is key to maintaining water treatment infrastructure reliability within the San Diego region.
- **G: *Effectively reduce sources of pollutants and environmental stressors***. This project produces a plan to manage lake quality and evaluates methods to reduce turbidity, increase oxygen in lower levels of the reservoir, reduce manganese, and reduce entry of nutrients into the reservoir to lower algal activity. In addition, the project prioritizes and implements select measures to combat effects of quagga mussels in linked reservoirs and connected facilities.

Project Partners

This project is complementary to the ongoing effort by San Dieguito Water District, Santa Fe Irrigation District, City of San Diego, San Dieguito River Valley Conservancy, and the San Dieguito Watershed Council to address long term water quality and environmental issues within the Lake Hodges watershed. Additional project supporters include San Diego CoastKeeper and San Diego Gas and Electric.

Project Abstract

The *Lake Hodges Water Quality and Quagga Mitigation Measures* project is intended to address two issues centered within the San Dieguito hydrologic unit. The first is how to improve low water quality within Lake Hodges. The second is how to mitigate against the potential long term effects of quagga mussels on Lake Hodges, San Dieguito Reservoir, Olivenhain Reservoir, and attached facilities.

In order to accomplish the water quality objective, we propose to gather baseline water quality data, evaluate existing technologies for applicability, evaluate environmental effects of various measures, and determine which methods should be pilot tested in this first phase of the project. If an environmental impact report (EIR) is indicated for implementation occurring in a future phase of the project, the EIR will be incorporated into Phase 1.

In order to accomplish the Quagga mitigation objective, we will conduct a vulnerability assessment for the three reservoirs and attached facilities (a hydroelectric facility, a water filtration plant, a flow control facility, pump stations, and pipelines), evaluate applicability of existing control methods and level of control achieved, and prioritize control implementation for this and subsequent phases of the project. Funds have been included in this project phase to design and implement at least one control measure.

For purposes of budgeting, it was estimated that the highest priority control would be at the Hodges Pumped Storage facility (hydroelectric facility) to potentially re-route piping and install controls such as disinfection and filtration to protect the cooling water system from infestation. Depending on the outcome of the vulnerability assessment, control measure evaluation, and prioritization process, the location or type of controls constructed may change.

Additional water quality or Quagga control priorities may be implemented if it is determined that an EIR is not required for the planned work. No design work has been completed to date for this project.

Linkages and Synergies between Projects

This project is complemented by the *San Dieguito Watershed Management Plan Implementation Project – Lake Hodges Natural Treatment System Conceptual Design* (Project 17 in the San Diego IRWM Proposition 50 grant program) which deals with land/watershed improvements that can be made to improve long term water quality. The *Lake Hodges Water Quality and Quagga Mitigation Measures* project proposes facility and in-reservoir improvements to address existing water quality.

Existing Data and Studies

The need for this project type, scope or focus is identified in the following agreements, plans, and studies:

- Agreement between SDCWA and the City of San Diego for the Emergency Storage Project (Joint Use of lake Hodges Dam and Reservoir), Section 9.1.2, April 1998.
- San Diego Regional Quagga Mussel Working Group. April 2008. *San Diego Regional Dreissena Mussel Response and Control Plan.*

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

This project is a multi-phased project. Water quality and Quagga mussel control measures can be fully evaluated, prioritized and scheduled for implementation under this first phase, allowing for more effective and efficient use of funds for future phases.

Some funds have been included to implement Quagga control measures for those items identified as high priority and where existing technology can be applied effectively.

Project Map

Figure 3-6 provides a project site map for the *Lake Hodges Water Quality and Quagga Mitigation Measures* project, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR. The *Lake Hodges Water Quality and Quagga Mitigation Measures* project will contribute $27,000 to these administrative fees.

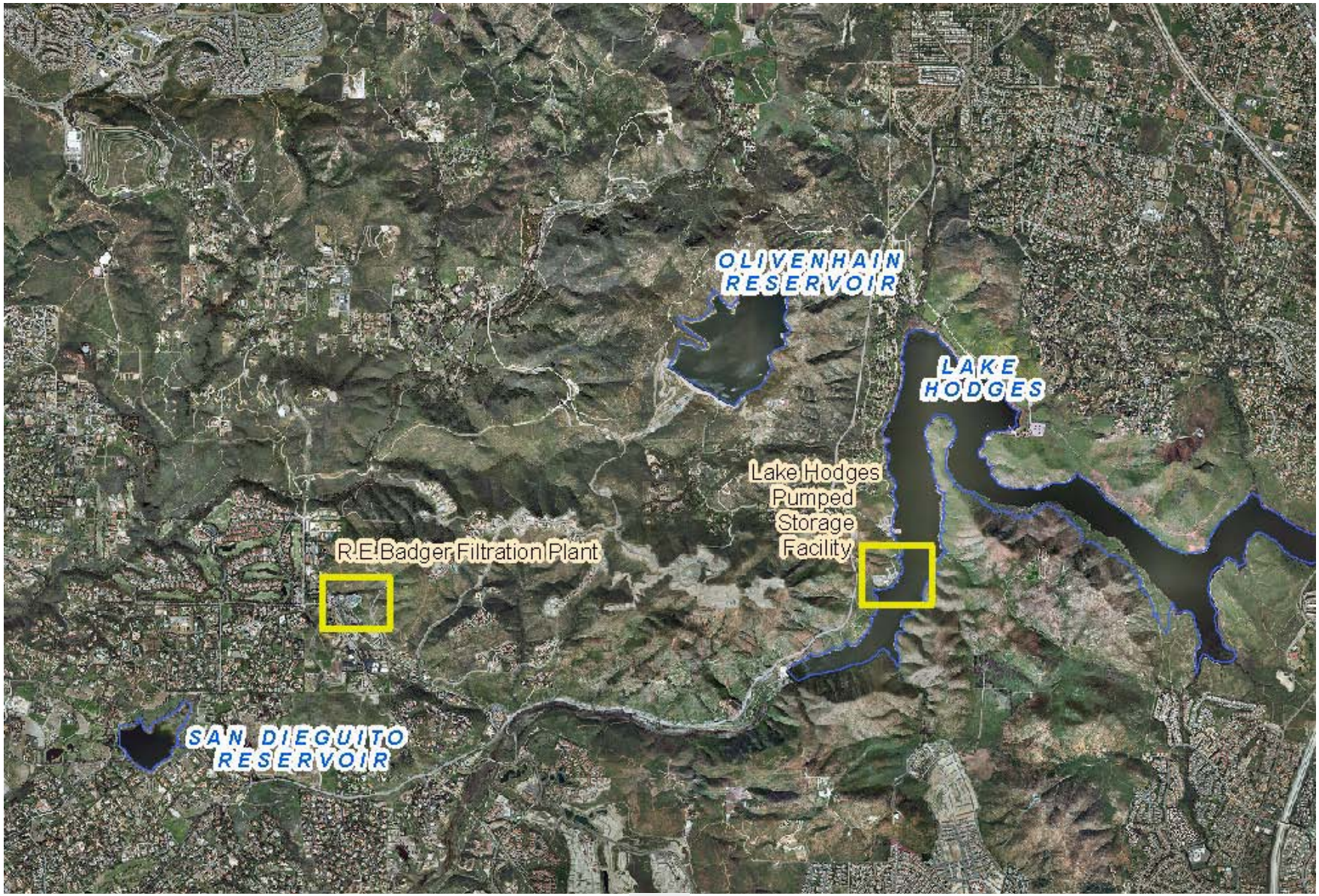
A. Direct Project Administration

Task 1 – Project Administration: This project will involve project administration before and after the Implementation Grant Agreement is formalized (June 1, 2011).

Ongoing project administration for this project (before June 1, 2011) will involve assembling a stakeholder committee, developing agreements with project partners, stakeholder meetings and correspondence, setting up the project budget in the financial system, and entering the project schedule. SDCWA has employed a Project Manger and Administration Support to date for project administration and will utilize interagency project coordinators from cost sharing agencies to coordinate project partner expenses.

Future project administration (after June 1, 2011) will continue to involve stakeholder coordination meetings and project partner expenses. Deliverables for future project administration include a final agreement with project partners and quarterly project reports and invoices representing project progress.

Figure 3-6: Lake Hodges Water Quality and Quagga Mitigation Measures Project Map



Labor Category	Level of effort	Status
BEFORE June 1, 2011		
Project Manager	32 hours	Underway
Administration Support	8 hours	Underway
Interagency Project Coordination	4 hours	Underway
AFTER June 1, 2011		
Project Manager	92 hours	Not started
Administration Support	32 hours	Not started
Interagency Project Coordination	16 hours	Not started

Task 2 – Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program (LCP) in accordance with CCR §16421-16439. The Water Authority currently has an active Labor Compliance Program contract with Golden State Labor Compliance, LLC. The program was approved by the California Department of Industrial Relations in 2003. Deliverables from this LCP include the approved LCP and an annual report.

Task 3 – Reporting: In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start	Not started
Project Completion Report	December 2014	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: The following provides a list of necessary studies that have been completed in order to assess and evaluate the project.

- The *Santa Fe Irrigation District Water Quality Assessment* is expected to be finalized in May 2011. This assessment involves collection of water quality data from Lake Hodges and San Dieguito Reservoir, and then analysis of the data to develop future water quality improvement measures for feasibility studies and analyses.
- A *Quagga Mussel Vulnerability Assessment* will be finalized in June 2011. The report will assess the Olivenhain, Lake Hodges, and San Dieguito Reservoirs, the Lake Hodges Pumped Storage Facility, and other related facilities for vulnerability to quagga mussel infestation, determine which available protection measures can be implemented, and how implementation should be phased.

The following provides a list of necessary studies that will be completed after the Implementation Grant Agreement is in place, in order to assess and evaluate the project.

- A *Water Quality Improvement Measures Feasibility Study* will be completed in February 2012. This study will assess available technologies for potential to improve water quality in Lake Hodges when compared to baseline data, including assessing reasonability of costs to implement and maintain. Results of any pilot testing and/or technology trials will also be included. This study will be a project deliverable.

Study Performed	Date	Status
BEFORE June 1, 2011		
SFID Water Quality Assessment	May 2011	Underway
Quagga Mussel Vulnerability Assessment	June 2011	Underway
AFTER June 1, 2011		
Water Quality Improvement Measures Feasibility Study	February 2012	Not started

Task 5 – Final Design: None of the design work has been completed for this project. All design work will occur after initiation of the Grant Agreement (after June 1, 2011). Future design efforts will occur as outlined in the table below.

Preliminary Design will be completed in April 2012. This design will utilize conclusions from the vulnerability assessment and prioritization process to develop the preliminary design of Phase 1 Quagga control measures. This study will be a project deliverable.

Solicitation efforts will be conducted for the aforementioned design efforts. Solicitation for the planning and design of water quality projects will occur in July 2011, and deliverables for this design will include final design of Phase 1 water quality improvement equipment. Solicitation for the design of Quagga control measures will occur in September 2011, and deliverables for this design will include final design of Phase 1 Quagga control equipment/facility retrofits.

Design Submittals	Date	Status
AFTER June 1, 2011		
10% (conceptual) Design	January 2012	Not started
30% Preliminary Design	April 2012	Not started
100% (Final) Design	July 2012	Not started
Solicitation Efforts	**Date**	**Status**
AFTER June 1, 2011		
Planning/Design – Water Quality Projects	August 2011	Not started
Design – Quagga Control Measures	September 2011	Not started

Task 6 – Environmental Documentation: This project will not require environmental documentation prior to initiation of the Grant Agreement (before June 1, 2011), because the project will still be in the planning phase at that time.

The project will go through a CEQA determination process at the 10% design stage (in January 2012), which will determine the environmental documents required to proceed with Phase 1 and subsequent phases of project implementation. An Environmental Impact Report (EIR) may be required for in-lake construction and implementation activities. This environmental documentation, or other environmental documentation required for project implementation will be finalized by June 2013. Deliverables for environmental documentation will include a Certified EIR, and/or a certified copy of any other environmental documentation required.

Environmental Documentation	Date	Status
AFTER June 1 , 2011		
CEQA determination	January 2012	Not started
EIR/Other Environmental Documentation	July 2013	Not started

Task 7 – Permitting: No permitting will be required for this project prior to initiation of the Grant Agreement (June 1, 2011). The need for permits will be evaluated during environmental review of this project; no environmental permitting is included within the Work Plan at this time.

D. Construction/Implementation

Task 8 – Construction Contracting: No construction contracting will be required for this project prior to initiation of the Grant Agreement (June 1, 2011). Construction contracting for this project will include advertisement for bids, pre-bid contractors meeting, evaluation of bids, and contract award. Formalization of the Notice to Proceed will occur in January 2013.

Construction Contracting Tasks	Date	Status
AFTER June 1 , 2011		
Notice to Proceed	January 2013	Not started

Task 9 – Construction: All construction for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011). Design for this project has not yet been started, and as such this Work Plan contains projected and estimated information regarding construction.

Building Materials and/or Construction Standards

Final design for the project has not started; however, construction costs were estimated using costs incurred by another government agency that has done work similar to anticipated consultant recommendations and prioritization of projects following feasibility, planning and design stages. All standards will comply with local, state and federal regulations.

Construction Tasks

Construction tasks for this project will include installation of Quagga mussel control equipment and reconfiguration of existing facilities. However, the actual construction items will be determined based on a prioritization process that will be completed following the vulnerability analysis and feasibility study listed above in Task 4: Assessment and Evaluation.

Actual labor and materials necessary for construction of the Quagga mussel control equipment will include site mobilization and preparation, installation of control measures, performance testing and demobilization. Construction is anticipated to be complete in mid-2014.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: Environmental mitigation has not yet been determined and may not be required if work is contained within an existing facility. Any environmental compliance/mitigation/enhancement will be completed in compliance with requirements determined in the final environmental documentation. However, no environmental mitigation is included within the Work Plan at this time.

F. Construction Administration

Task 11 – Construction Administration: This task involves administration, coordination, and review of the construction contract and all other related construction tasks. This task will be carried out by a Construction Administrator, Construction Manager, and Project Manager.

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Construction Management	360 hours	Not started
Construction Administration	220 hours	Not started
Project Management	120 hours	Not started

Project 6: Implementing Nutrient Management in the Santa Margarita River Watershed

I. Introduction

Project Sponsor

The County of San Diego is the project sponsor for the *Implementing Nutrient Management in the Santa Margarita River Watershed* project.

Project Need

Nitrogen and phosphorous loading from the Santa Margarita River Watershed can result in low dissolved oxygen (DO) and increased algal blooms in the estuary and stream segments, several of which have been 303(d)-listed for nitrogen (N), phosphorus (P), or eutrophication. Addressing these adverse effects requires use of appropriate water quality objectives (WQOs) based on the level of nutrients a waterbody can sustainably assimilate. This level varies greatly due to site-specific factors such as hydrology, shading, and temperature, which modulate biological response to nutrients. Current N and P WQOs are problematic, in part, because they do not consider site-specific factors. The Nutrient Numeric Endpoint (NNE) framework, an alternative regulatory approach advocated by State Water Resources Control Board (SWRCB) staff and U.S. Environmental Protection Agency (USEPA) Region 9, is currently under development. The *Implementing Nutrient Management in the Santa Margarita River Watershed* project will address data gaps inherent in the NNE framework and refine nutrient WQOs for the watershed.

Depending upon the results of the studies, it is possible that a broader range of discharges to the Santa Margarita River may be naturally sustained, such as recycled water, if the nutrient levels are protective of the beneficial uses.

Project Purpose

The *Implementing Nutrient Management in the Santa Margarita River Watershed* project aims to establish nutrient WQOs for the Santa Margarita River estuary (Phase I) and ultimately watershed (Phase II) that will lead to the implementation of nutrient reduction and water conservation practices in the watershed.

Project Objectives

The *Implementing Nutrient Management in the Santa Margarita River Watershed* project seeks to accomplish the following objectives: Create and facilitate a Santa Margarita River watershed stakeholder group that will provide feedback, critical review of technical work products, and achieve consensus on WQOs;

- Conduct monitoring and special studies to address data gaps in data required to develop WQOs for the River; and
- Develop proposed nutrient WQOs or nutrient endpoints for Santa Margarita River estuary based on the NNE approach and local data.
- Maximize stakeholder and community involvement in the Santa Margarita watershed by establishing a stakeholder group
- Develop nutrient WQOs for SMR watershed that are protective of beneficial uses thus encouraging the implementation of BMPs to reduce nutrient runoff from wet and dry weather sources

Table 3-9 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Implementing Nutrient Management in the Santa Margarita River Watershed Project.*

Table 3-9: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Implementing Nutrient Management in the Santa Margarita River Watershed	●	●	●				●		

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- **A: *Maximize stakeholder and community involvement and stewardship***. Stakeholder involvement is central to the goals of the project. The stakeholder group will guide project objectives, identify data gaps, review technical outcomes, participate in water conservation outreach, and achieve consensus on recommending WQOs for the lagoon that are protective of beneficial uses that include protecting current habitats.
- **B: *Effectively obtain, manage, and assess water resources data and information***. The project will utilize and expand the existing watershed-wide hydrology and water quality database, leveraged from existing partnerships, to further obtain, manage, and assess water resource data and information.
- **C: *Further the scientific and technical foundation of water management***. The project will demonstrate an innovative approach to establishing nutrient WQOs by using open source models, publishing results in peer-reviewed scientific literature, and making presentations to stakeholders, thus improving the technical foundation of water management.
- **G: *Effectively reduce sources of pollutants and environmental stressors***. This project will develop nutrient WQOs that will help reduce sources of pollutants, specifically nutrients, and other environmental stressors associated with point and non-point source runoff.

Project Partners

Project partners in the *Implementing Nutrient Management in the Santa Margarita River Watershed* project include: the Counties of San Diego and Riverside; the Cities of Temecula, Murrieta, Wildomar, and Menifee; Riverside County Flood Control and Water Conservation District (RCFCWCD); Rancho California Water District (RCWD); Camp Pendleton; U.S. Bureau of Reclamation; San Diego Regional Water Quality Control Board (SDRWQCB); Caltrans; Fallbrook Public Utilities District; Southern California Coastal Water Research Project (SCCWRP); Mission Resources Conservation District; Elsinore Murrieta Anza Resource Conservation District (EMARCD); and Trout Unlimited.

The project is also a partnership between the Upper Santa Margarita RWMG and the San Diego RWMG, as partners in the Tri-County Funding Area Coordinating Committee (Tri-County FACC) of the San Diego Funding Area.

Project Abstract

The project consists of three major activities (listed in Task 4) as described below. Please note that this project is part of a joint application between the San Diego IRWM Region and the Upper Santa Margarita IRWM Region. The *Upper Santa Margarita IRWM Implementation Grant Proposal* includes the same project. The project descriptions are identical (as each proposal partially funds the whole project) except for the budget, which is specific to the IRWM planning region (please refer to Attachment 4). The County of San Diego will serve as the administrator for the overall project. Completion of design is not relevant to this project, because it will not include final design efforts.

Each of the tasks below identifies which proposal(s) are funding the task:

Subtask 4A: Form and Facilitate Stakeholder Advisory Group (San Diego and Upper Santa Margarita Proposals)

The purpose of this subtask is to form and facilitate discussions among a Santa Margarita River watershed stakeholder group to guide project activities, review technical work products, and achieve

consensus. The group will guide project activities, and review and provide feedback on technical and policy elements. The group will be formed from the existing Santa Margarita River Executive Management Team (EMT), which is comprised of key agencies and land owners in the watershed who meet quarterly to address water management issues.

One of the group's first tasks will be to develop a monitoring program to support the development of nutrient WQOs. This will be done by identifying key questions and conceptual approach, determining specific technical activities and information required, evaluating existing data and identifying data gaps. The resulting products will be the monitoring plan and Quality Assurance Project Plan (QAPP) to be prepared by USMC Camp Pendleton.

This task includes funding for the Principal and Senior Scientist for the field and special studies to attend ten four-hour Stakeholder Advisory Group Meetings, scheduled approximately bimonthly initially and then as needed from July 2011 through December 2014 (10 meetings). Their purpose would be to take input from the stakeholder group regarding the project and provide updates, grant reports, and other information. Each meeting is presumed to require 2 hours of driving and 6 hours of preparation.

Subtask 4B: Conduct Field and Special Studies (San Diego and Upper Santa Margarita Proposals)

The purpose of this subtask is to conduct monitoring and special studies to address data gaps identified by stakeholders to achieve project objectives. Pending the analysis of data gaps, potential studies will include core field data collection and special studies.

The goal of core field data collection will be to measure ambient nutrient concentrations and conduct algal bioassessment studies. The core studies will focus on site-specific factors controlling algal response that include canopy cover, substrate types, flow rates, and others. Pending the outcome of task 4A, approximately 10 to 15 sites will be sampled 3 times per year during the growing season over a period of 1 year. The studies may include hydrology measurements as well as water quality sampling. The SWAMP *Standard Operating Procedures for Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in California* (May 2010) protocol will be followed (includes water chemistry, algal biomass, cover, biovolume, and PHAB).

The special studies will include a characterization of the "natural background" conditions of nutrient concentrations and algal growth. The studies will provide information needed to select appropriate algal thresholds and to determine "background" indicator variability (the margin of error). The special studies will further address important nutrient sinks (ex. denitrification), sources (ex. groundwater), and rates of nutrient transformation processes. They will help characterize the variability in numeric targets. The specific studies required will be better defined during work plan discussions.

The deliverables will include data uploaded to Santa Margarita River watershed database, technical report summarizing data quality and conditions by reach, and technical report summarizing the outcomes of the special studies.

The specific distribution of stations for monitoring and special study between the two regions will be determined from the data gap analysis. Funding of the data collection and special study will be based on the attached budget worksheets independent of station/study location as the project, as a whole, benefits both the Upper Santa Margarita and San Diego regions. The San Diego and Upper Santa Margarita IRWM Regions have therefore agreed to a fixed percentage distribution of costs for this project.

Subtask 4C: Develop Nutrient WQOs for Santa Margarita River Estuary (San Diego Proposal)

The approach for developing nutrient WQOs for the Santa Margarita River estuary leverages two major activities: 1) data collection to support modeling in the estuary and watershed to develop TMDLs and 2) ongoing research to develop the estuarine NNE framework, based on dissolved oxygen and macroalgae as endpoints.

In 2007, the SDRWQCB issued a Monitoring Order to San Diego Co-Permittees to collect data to support the calibration and validation of watershed loading and lagoon water quality models, with the specific purpose of calculating the "maximum load" of nutrients that the estuary can sustain and establishing the TMDL (load and waste load allocations, implementation plan, etc.). To assist in this effort, SCCWRP

received funding from a Prop 50 grant to conduct special studies to complement the monitoring order. Data collection is now completed and the final baseline report will be issued in December 2010. In addition, SCCWRP is providing technical support to the SWRCB by conducting literature review and studies to refine estuarine water column dissolved oxygen objectives and to develop NNE thresholds for macroalgal blooms in mudflats. Final deliverables for this statewide estuarine NNE project will be available in the spring of 2012, but a preliminary assessment framework will be available in the spring of 2011.

This project will build on these existing efforts by reviewing, with stakeholders, the available data for selection of a macroalgal NNE target, and calibrating and validating the estuarine water quality model in order to estimate the "maximum sustainable load" of N and P. This work will form the basis for selecting N and P WQOs for the estuary and will inform the river nutrient WQOs by determining nutrient concentrations required to protect downstream (i.e. estuarine) beneficial uses.

Linkages and Synergies between Projects

The *Implementing Nutrient Management in the Santa Margarita River Watershed* project is also linked to the following:

- Santa Margarita River Conjunctive Use Project (receiving Prop 50 funding through the San Diego IRWMP)
- San Diego Lagoon TMDL Project (receiving Prop 50 funding through SCCWRP)
- Technical Support for Estuarine Nutrient Numeric Endpoint (SWRCB-funded project to SCCWRP)
- Water Augmentation Study (proposed by U.S. Bureau of Reclamation for Upper Santa Margarita IRWMP funding)
- Murrieta Creek Phase II (proposed by RCFCWCD for Upper Santa Margarita IRWMP funding)
- Murrieta Creek Phases III and IV (proposed by RCFCWCD for Upper Santa Margarita IRWMP funding)
- San Mateo Creek Fish Habitat Restoration (proposed EMARCD partnered with Trout Unlimited for Upper Santa Margarita IRWMP funding)
- Reclaim and Recycled Anza Farming Irrigation Runoff Water and Other Nearby Contaminated Water (proposed by Anza/Aguanga IRWMP community for Upper Santa Margarita IRWMP funding)
- Agricultural Waiver Project (proposed by RCWD for Upper Santa Margarita IRWMP funding)
- Sustainable Agriculture (proposed by RCWD for Upper Santa Margarita IRWMP funding)
- Salt and Nutrient Groundwater Management Plan (proposed by RCWD for Upper Santa Margarita IRWMP Funding)
- Implementation of Wildomar Master Drainage Plan (proposed by RCFCWCD for Upper Santa Margarita IRWMP funding)
- Retrofit Public Property with Water Quality Measures (proposed by RCFCWCD for Upper Santa Margarita IRWMP funding)
- Stream Restoration (Santa Margarita Watershed) for Steelhead Trout (proposed by Trout Unlimited for Upper Santa Margarita IRWMP funding)
- Agricultural Lands Stewardship (proposed by EMARCD for Upper Santa Margarita IRWMP funding)

Existing Data and Studies

This project type, scope and focus and, in some instances, location type is also identified specifically in the following watershed and TMDL implementation plans:

- CDM Federal Programs Corporation. June 2009. Santa Margarita River Lagoon Monitoring Project: Data Usability and Assessment Review, Field Measured Data.

- CDM Federal Programs Corporation. June 2009. Santa Margarita River Lagoon Monitoring Project: Data Usability and Assessment Review, Laboratory Data.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

The project is a multi-phased project:

- Phase I (*the subject of this Work Plan*) will involve forming and facilitating discussions among a Santa Margarita River watershed stakeholder group to guide project activities, review technical work products, and achieve consensus. This Phase will include modeling of the Santa Margarita Estuary using existing data and developing WQOs for the estuary. The group will identify key study questions, outline the conceptual approach, evaluate existing data, identify data gaps, and determine specific technical activities and information required. Based on this, the group will develop a monitoring program that will include the monitoring plan and QAPP.
- Phase II will involve conducting additional monitoring and special studies to address data gaps identified by stakeholders, and develop proposed nutrient WQOs for Santa Margarita River based on the NNE approach using local data.

Phase I of the project can operate on standalone basis because once the consensus is reached, data gaps are identified and required activities are determined, they may be used as guidance for future studies. Additionally, data are already available to conduct the nutrient modeling of the Santa Margarita River estuary. This will be documented in the work products: monitoring plan and QAPP.

Phase II of the project can also operate on standalone basis because it focuses on the developing the WQOs of nutrients in the Santa Margarita River watershed. Additional monitoring may be required to develop the Santa Margarita River WQOs and that will be determined in consultation with the stakeholder group.

Project Map

Figure 3-7 provides a project site map for the *Implementing Nutrient Management in the Santa Margarita River Watershed*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

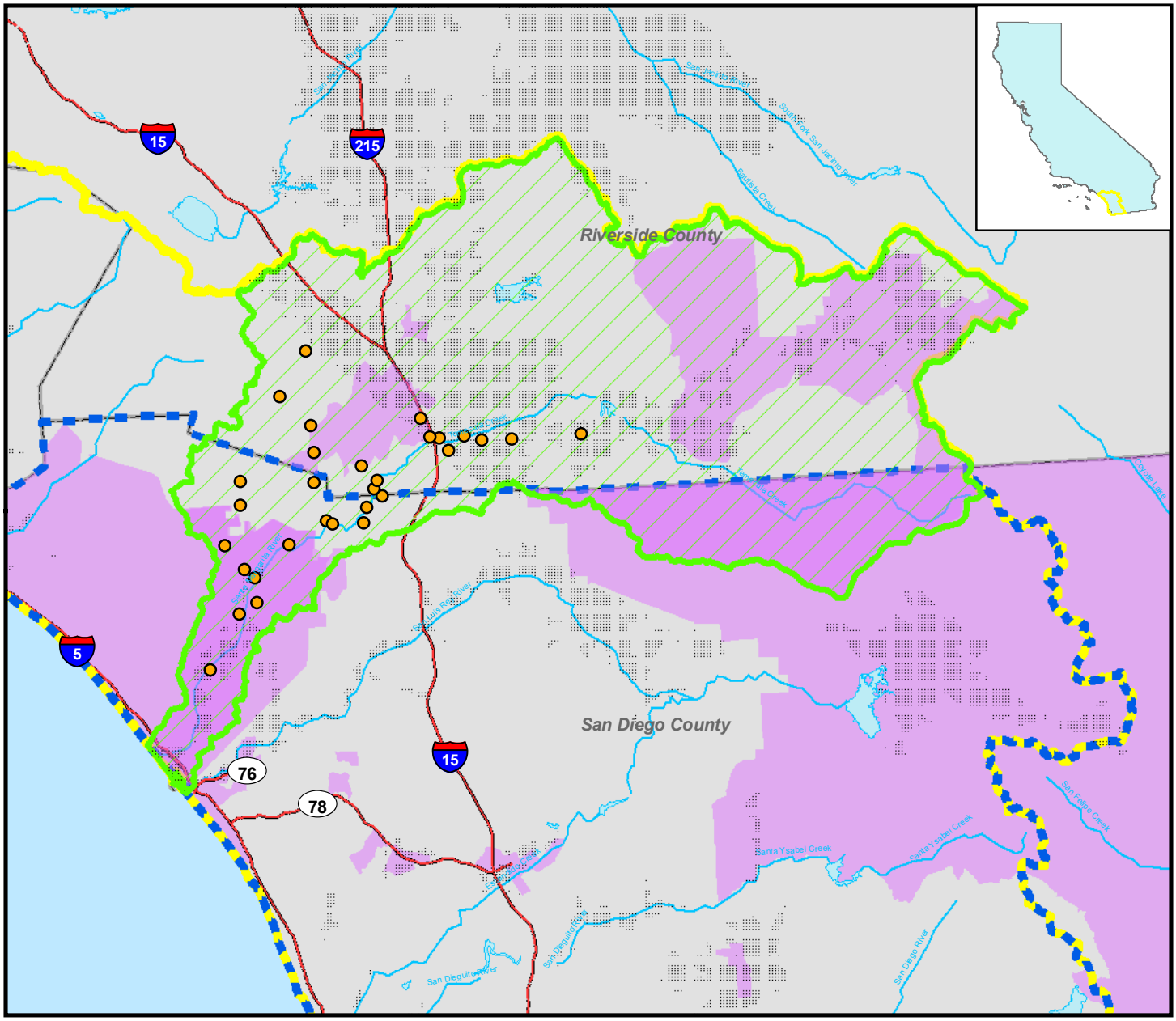
A. Direct Project Administration Costs

Task 1 – Project Administration: This task involves project administration, coordination, and review of all following project tasks. This task is not included within the budget for this project, because funds to support this task will come from the County of San Diego's General Fund.

Task 2 – Labor Compliance Program: This project will not involve construction activities or any other activities that would necessitate a Labor Compliance Program.

Task 3 – Reporting: In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Figure 3-7: Implementing Nutrient Managment in the Santa Margarita River Watershed Project Map



Legend

- Proposed Monitoring Sites
- Groundwater Basins
- Santa Margarita River Watershed Boundary
- Median Household Income <$38,000
- San Diego IRWM Region
- Funding Area Boundary
- Ocean
- Waterbody
- River
- Freeway
- County

N

0 2 4 8
Miles

RMC

U.S. Census Bureau, 2000 Census, Median Household Income by Census Tract, Available: http://www.sandag.cog.ca.us/resources/maps_and_gis/gis_downloads/admin.asp
Tribal Lands, Available: http://www.sangis.org/Download_GIS_Data.htm

Project Administration Submittals	Date	Status
BEFORE June 1, 2011		
Sample and Analysis Plan	May 31, 2011	Not started.
Quality Assurance Project Plan (QAPP)	May 31, 2011	Not started.
Project Assessment Evaluation Plan (PAEP)	May 31, 2011	Not started.
AFTER June 1, 2011		
Quarterly Reports and Invoices	Quarterly as determined by Start	Not started.
Project Completion Report	October 1, 2014	Not started.

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: Subtasks 4A, 4B, and 4C listed within the Budget for this project (refer to Attachment 4) include the following assessments and/or evaluations. Note that portions of Subtask 4C Develop Nutrient WQOs for Santa Margarita River Estuary, and the entirety of Subtask 4A Form and Facilitate Stakeholder Advisory Group will be completed prior to initiation of the Grant Agreement (June 1, 2011). Deliverables that will result from this task include Monitoring and Special Studies Report (draft and final), and Proposed Nutrient WQOs for Santa Margarita Estuary Report (draft and final).

- ***Subtask 4A: Form and Facilitate Stakeholder Advisory Group*:** This task will be completed by May 31, 2011, and will involve forming and facilitating a stakeholder advisory group. The stakeholder group will guide project activities, and review and provide feedback on technical and policy elements of the project. Stakeholders will also identify key questions and a conceptual approach, and determine specific technical activities and information required to carry out that approach. The group will also evaluate existing data and identify any current data gaps.

  The group will develop a monitoring program to support the development of nutrient water quality objectives (WQOs), the products of which will be a Sample and Analysis Plan, QAPP, and PAEP as outlined in Task 3 above.

  Data collected during this process include technical evaluations and feedback from stakeholders, which were used to identify data gaps. In addition, stakeholders will provide input on the modeling effort to develop WQOs and assist in development of the QAPP and PAEP.

- ***Task 4B: Conduct Field and Special Studies*:** This task will be completed after initiation of the Grant Agreement, by October 1, 2014. The studies conducted for this task will address site-specific factors controlling algal response. Approximately 10 to 15 sites will be sampled 3 times per year for one year's time. Data generated will include an algal bioassessment, water quality data, and site-specific physical and hydrological data. Monitoring and special studies will address data gaps identified by the stakeholder group (as part of Subtask 4A) necessary to achieve project objectives. Potential studies will include core field data collection and other special studies.

- ***Task 4C: Develop Nutrient WQOs for Santa Margarita River Estuary***: Before the Grant Agreement, the project team completed the *Santa Margarita River Estuary Investigation* (June 2009). In response to Order 13267 from the San Diego Regional Water Quality Control Board, a Santa Margarita River Estuary Investigation was conducted by a subgroup of stakeholders between 2008 and 2009. The data collected during this time will be used to conduct estuary modeling.

  The Southern California Coastal Water Research Project (SCCWRP), under a Proposition 50 grant, collected additional information from the Santa Margarita River Estuary to address nitrogen sources within the lagoon. Additionally, the San Diego Municipal Stormwater Co-Permittees

contributed funds to the field equipment and data collection of information for the *Bight '08 Estuaries and Coastal Wetlands Eutrophication Study* (December 2008, attached) that included extensive work done at the Santa Margarita River Estuary. The results of that study are currently being analyzed and will be considered for the modeling of estuary processes below.

Proposed future work tasks will be completed by October 1, 2014. These tasks will involve using existing data mentioned above, as well as data collected from the Bioassessment Program, which includes algal and benthic macroinvertebrate bioassessment data, water quality measurements, flow measurements, and other site specific data.

The approach for developing nutrient WQOs for the Santa Margarita River estuary leverages two major activities:

1) data collection to support modeling in the estuary and watershed to develop Total Maximum Daily Loads (TMDLs) and
2) ongoing research to develop the estuarine nutrient numeric endpoints (NNE) framework, based on dissolved oxygen and macroalgae as endpoints.

Based on the NNE approach and local data, the nutrient WQOs for the Estuary will be developed by staff of the San Diego RWQCB, as appropriate.

Study Performed	Date	Status
BEFORE June 1, 2011		
4A: Form and Facilitate Stakeholder Advisory Group	May 31, 2011	In process
4C: Santa Margarita River Estuary Investigation	May 31 2011	Complete
4C: Bight '08 Estuaries and Coastal Wetlands Study (Santa Margarita River Estuary data collection)	May 31, 2011	Complete
AFTER June 1, 2011		
4B: Monitoring and Special Studies Report	October 1, 2014	Not started
4C: Proposed Nutrient WQOs for Santa Margarita River Estuary Report	October 1, 2014	Not started

Task 5 – Final Design: Not applicable.

Task 6 – Environmental Documentation: This project qualifies as a planning study according to Section 15262 of the California Environmental Quality Act (CEQA) Guidelines, because it will identify programs and projects for possible future actions, but does not have a legally binding effect of the participating agencies. As such, this project was issued a CEQA Categorical Exemption in May 2011. This project does not require NEPA-related analysis.

Environmental Documentation	Submittal	Status
CEQA Categorical Exemption	May 31, 2011	Not Started

Task 7 – Permitting: This project will not involve construction, and was issued a CEQA Categorical Exemption. Therefore, permitting is not applicable to this project.

D. Construction/Implementation

Task 8 – Construction Contracting: This project will not require construction contracting.

Task 9 – Construction: This project will not involve construction.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: This project was issued a CEQA Categorical Exemption, which renders it compliant with CEQA. All tasks carried out for this project (studies) will be conducted in a manner that ensures environmental compliance with all other environmental statutes.

F. Construction Administration

Task 11 – Construction Administration: Construction administration will not be completed as part of this project.

Project 7: Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection

I. Introduction

Project Sponsor

The City of San Diego is the project sponsor for the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* project.

Project Need

The *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* (Project #92) project is located in central San Diego in the Tecolote Creek Watershed, which encompasses approximately 5,992 acres of predominately of urbanized land located and area discharges to the southern portion of Mission Bay. The Regional Water Quality Control Board has identified Tecolote Creek as an impaired water body on the 2008 Clean Water Act Section 303(d) List for bacteria. The project is part of the City of San Diego's tiered and phased storm water best management practices (BMP) implementation approach, which targets runoff reduction and includes components for watershed stewardship, education and outreach, and community enhancements in capital projects. Properly engineered and designed infiltration may prove to be a cost effective alternative to building costly and land intensive end-of pipe treatment facilities.

This project will directly further the protection of the recreational uses of Mission Bay, which is a regional recreational asset that is directly impacted by pollutant-laden urban runoff discharged via the storm drain system through Tecolote Creek. In reducing urban runoff that carries pollutants into Tecolote Creek, the potential for contact and non-contact recreational uses are enhanced regionally.

Project Purpose

The goal of the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* project is to reduce the pollutant load and volume of runoff entering the storm drain system in the Tecolote Creek Watershed. The load reduction goal will be achieved by diverting stormwater from the street to bioretention and treatment planters through curb cutouts. Enhanced streets will infiltrate storm flows through pervious pavement, which will reduce storm flows. These goals will also be achieved by diverting flows through a trash segregation unit and a series of AbTech (Bacterial Treatment System) units within the watershed.

This project will enhance the surrounding residential area by integrating low impact development (LID)-type storm water BMPs to reduce storm water pollutant loads, primarily indicator bacteria, and help the City meet stringent Municipal Separate Storm Sewer System (MS4) Permit and Total Maximum Dailey Load (TMDL) requirements for Tecolote Creek. The project will also include additional community enhancements, such as a displays, literature and signage, to raise community awareness of the project and identify the water quality improvement benefits of the project and the direct linkages between the project's improvements and the nearby Tecolote Canyon Natural Park and Mission Bay Park. By implementing this project, the City can further assess, evaluate and fine-tune cost effective solutions to excessive bacteria in urban runoff. This will allow the City to accomplish bacteria reduction before resorting to more expensive and invasive types of treatment controls.

Project Objectives

The *Bannock Avenue Streetscape Enhancements for Tecolote Creek Watershed Protection* project seeks to accomplish the following objectives:

- Reduce the pollutant load and volume of runoff entering the storm drain system in the Tecolote Creek Watershed.
- Capture and infiltrate storm water runoff in the paved street sections of the Bannock Avenue neighborhood.
- Increase community awareness of stormwater management through a variety of community enhancements.

Table 3-10 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* project.

Table 3-10: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection	●		●	○		●	●		○

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder/community involvement and stewardship***. The proposed project will include community enhancements, such as a displays, literature and signage, to raise community awareness of the project and identify the water quality improvement benefits of the project and the direct linkages between the project's improvements and the nearby Tecolote Canyon Natural Park and Mission Bay Park. The project shall serve as a demonstration of the efficient and beneficial use of a) storm water as a source of irrigation in the streetscape and b) the use of vegetation in storm water treatment.
- ***C: Further the scientific and technical foundation of water quality management***. The storm water pollutant removal efficiency and effectiveness of the project will be monitored and assessed, both for pollutant load reduction and cost effectiveness. These analyses will include sampling and monitoring, tracking of maintenance costs, and monitoring of the vegetation establishment, maintenance, and irrigation to assess the overall effectiveness of this type of public infrastructure LID as a potential widely deployable BMP for storm water pollutant reduction. Based on the results of this effectiveness assessment, the City may apply similar designs, strategies, and BMPs throughout Tecolote and other watersheds as applicable to improve overall pollutant loads.
- ***D: Develop and maintain a diverse mix of water resources***. Capture and infiltration of storm water runoff will provide a source of irrigation water supply for the Bannock Avenue streetscape.
- ***F: Minimize the negative effects on waterways and watershed health caused by hydromodification and flooding***. Tecolote Creek watershed has been heavily hydro-modified due to urbanization and the installation of large areas of impervious pavement, with the greatest impacts on the mesas where urbanization decreases infiltration and the time-to-concentration of precipitation to runoff. This project provides for increasing infiltration from street impervious surfaces in areas adjacent to the street, rather than directing all of that runoff to the storm drain system and then Tecolote Creek.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. The porous pavement, bioretention planter cells, and AbTech units will capture and treat precipitation on adjacent streets, which will reduce the volume of storm runoff entering the storm sewer system

and thus reduce a corresponding volume of targeted pollutants directed into Tecolote Creek. There will also be a bacterial load reducing component to storm water flows from both treatment and filtration. It is anticipated that these improvements will achieve a 95% or greater efficiency of the 85th percentile storm (SUSUMP) event.

- ***I: Optimize water-based recreational opportunities***. The bacteria load reduction of this project directly impacts Mission Bay, which is the most widely used aquatic resource in the region. Reducing the impact of bacteria in this project will reduce indicator bacteria loads in Tecolote Creek, which will allow for wider and more continuous use of the Tecolote Creek Natural Park and the receiving water body Mission Bay. Nuisance pollutant loads, in particular bacteria, from Tecolote Creek have been the grounds for beach closings and postings in the past. Mission Bay Park consists of 4,235 acres and has over 15 million visitors annually. Mission Bay features nearly 27 miles of shoreline, 19 of which are soft, sandy beaches with swimming areas, several marinas and fishing piers.

Project Partners

Not applicable.

Project Abstract

Currently, the project is at 10% design, and 30% design for the project is anticipated prior to the grant award date (by May 2011). The Bannock Avenue Streetscape Enhancements for Tecolote Creek Watershed Protection project includes the following activities:

Concept Design: This project was initiated in July 2007 as part of the City of San Diego Storm Water Department's Fiscal Year 2008 Watershed Capital Projects Concept Design Process. The City's Storm Water Pollution Prevention Division contracted Weston Solutions, Inc. (Weston) to prepare the conceptual designs for a set of BMPs that address these regulatory requirements and the City's 5-Year Strategic Plan for Watershed Activity Implementation. This project is part of the City's tiered and phased BMP implementation non-structural source control and pollution prevention BMPs, as well as structural BMPs. This project includes several elements of Tier II of this approach, which is focused on structural LID BMPs which target runoff reduction and include components for watershed stewardship, education and outreach, and community enhancements in capital projects. The scope of this BMP conceptual design project was based on the recommendations on the type, number, location, and timeline presented in the 5-Year Strategic Plan for Watershed Activity Implementation. The Concept Design has been completed.

Pre-Engineering Report (10% Design): This study builds on the *Tier II & Tier III Storm Water Best Management Practices Conceptual Designs Final Report* prepared by Weston Solutions. The purpose of the Preliminary Engineering Report is to detail the scope of work, evaluate the clients' CIP project requests for adequacy of provided funds against the proposed scope of work, establish a cash loaded project schedule and get concurrence on the scope, cost, schedule and goals, identify the project risks and accounting for them in the scope, schedule and cost estimates. The Preliminary Engineering Report has been completed.

30% Design: Initial Design Effort – Fatal Flaw Analysis was performed and project performance modeled estimated and verified. Geotechnical Reports prepared Final Design Hydrology and Hydraulic Studies, including flow drainage area calculations, Water Quality Technical Report, estimates of the project construction and materials costs , and estimated construction schedule. During review of the project design, detailed performance analysis is performed to determine if the proposed design meets the performance specifications.

Environmental Permits & Compliance: Based on the scope of work, this project has been determined to be Categorically Exempt from CEQA under 15301(b) 'Existing Facilities' where there is negligible expansion of the storm drain conveyance system; 15303(d) 'New Construction' that would serve the existing area and treat storm water run-off; and 15304 'Minor Alterations to Land' where there would be minor improvements and the grade would be returned back to normal. A Water Pollution Control Plan, a traffic control plan, and ADA review will be required. These permits are issued under ministerial review.

60% Design & Specifications: Detailed design review is performed at this point to ensure for the incorporation of design changes made at the 30% Design submission and check for conflicts in the design with current infrastructure uses, performance and potential conflicts with other stakeholder such as other City Departments and outside agencies.

90% & 100% Design & Specifications: Draft Final design package is verified and circulated for review and approval from outside agencies and submitted as the permit package application for all required permits. Specification are finalized and put into a bid package with all bid quantities and measures and final contract terms.

Construction Contract Bid & Award: City Council approval of construction contract, certification of CEQA process and documents and authorization to advertize and award the contract. Purchasing department award process and approval. Final permit issuances, development of the construction scheduling and phasing and

Construction Operations: Construction, inspection, verification, warranty monitoring, and testing of site improvements. Project closeout and As-built preparation.

Water Quality Effectiveness Assessment and Monitoring: Water Quality Sampling, Monitoring and Analysis, laboratory testing and analysis, comparison to the WQTR estimates and calculations, quantification of pollutant load reductions, maintenance and site improvement monitoring and conditions assessment, tracking of costs for maintenance, damage, repair, vandalism, etc.

Linkages and Synergies between Projects

The City's Storm Water Department anticipates implementing approximately 72 infiltration and runoff reduction projects (such as green lots, green malls, rain barrels) in watersheds throughout the City as part of the MS4 Permit, TMDLs, and Areas of Special Biological Significance (ASBS) compliance in future fiscal years. These conceptual projects are identified in the City's 5-Year Strategic Plan for Watershed Activity Implementation (July 2007) and in the 2008 Stormwater Best Management Practices Conceptual Designs. This project is directly linked to another Tecolote Creek Bactria TMDL compliance project: Mt Abernathy Green Street infiltration Project for Tecolote Creek (Project #116). The implementation of approximately 72 projects similar in scope to the Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection will substantially improve water quality in the receiving water bodies. Each project will remove asphalt or other impervious surfaces of parking lots in various watersheds throughout the City and replace it with porous pavement and other storm water infiltration and treatment infrastructure designed for the target watershed and pollutants. The porous paving will allow urban runoff and any pollutants carried with it to infiltrate into the ground instead of discharging the pollutant-laden runoff directly to the storm drain system and adjacent receiving water body. The City has named this model approach for low LID in parking areas a "Green Lot" or "Green Street" depending on the application.

Existing Data and Studies

This project type, scope, and focus is identified in the following plans and studies:

- City of San Diego Storm Water Pollution Prevention Division. November 2007. *The Strategic Plan for Watershed Activity Implementation.*
- City of San Diego. July 2008. Tier II and Tier III Storm Water Best Management Practices Conceptual Designs (Pages 59-74).
- Storm Water Department, Storm Water Pollution Prevention Division. October 2009. Preliminary Engineering Report (10% Pre-Design Report): Bannock Avenue Neighborhood Streetscape Enhancements and Bannock Avenue Bacteria Treatment for Tecolote Creek Watershed Protection.
- CVALDO Corporation Civil Engineering. 2008. Bannock Ave Neighborhood Streetscape Enhancements and Bacteria Treatment for Tecolote Creek Watershed Protection – Concept Plan.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

This is not a multi-phased project. It can be implemented as a stand-alone project and achieve the full project benefits.

Project Map

Figure 3-8 provides a project site map for the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

A. Direct Project Administration

Task 1 – Project Administration: This task involves project administration, coordination, and review of all following project tasks. This task is not included within the budget for this project, because funds to support this task will come from the City of San Diego's General Fund.

Task 2 – Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program in accordance with CCR §16421-16439. The City of San Diego currently has an approved Labor Compliance Program (LCP) in place – *City of San Diego, Purchasing & Contracting Department, LCP ID LCP ID: 2003.00323*. The LCP has been approved by the California Department of Industrial Relations: http://www.dir.ca.gov/lcp/lcplist.asp?lcptype=apprcur. As such, no additional effort associated with the LCP will be conducted as part of this proposed Work Plan.

Task 3 – Reporting: In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly as determined by Start	Not started
Project Completion Report	December 2014	Not started

B. Land Purchase Easement

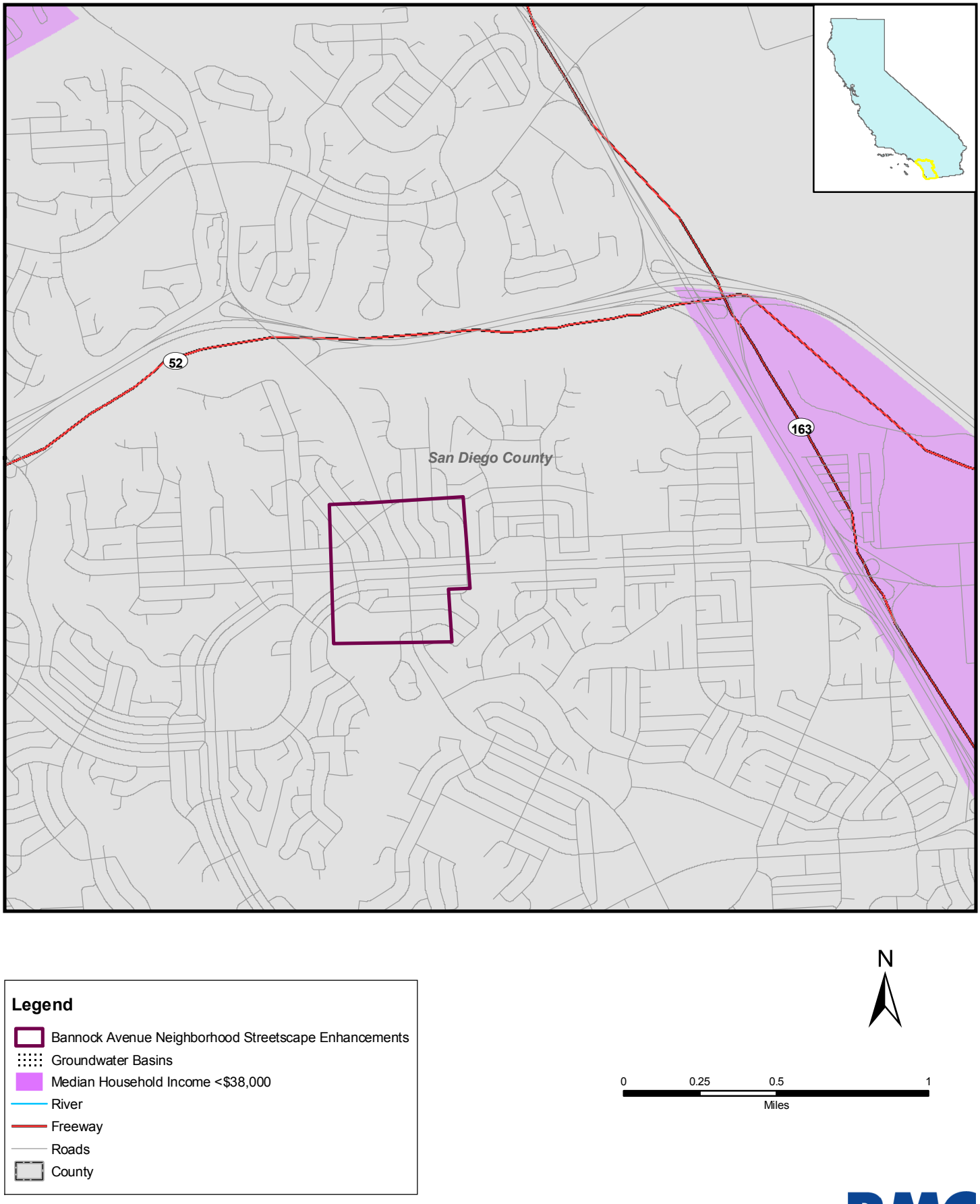
A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: The following provides a list of necessary studies that have been completed in order to assess and evaluate the project.

- The *Strategic Plan for Watershed Activity Implementation* was completed in November 2007. This plan describes the strategy the City of San Diego is undertaking to implementing an integrated tiered and phased approach to storm water BMP's. The integrated approach considers the current and potential future priority water quality problems and TMDL load reductions in the design and implementation of BMPs. BMPs therefore need to address multiple pollutants to meet current and future load reduction goals.

Figure 3-8: Bannock Avenue Neighborhood Streetscape Enhancements Project Map



U.S. Census Bureau, 2000 Census, Median Household Income by Census Tract, Available: http://www.sandag.cog.ca.us/resources/maps_and_gis/gis_downloads/admin.asp
Tribal Lands, Available: http://www.sangis.org/Download_GIS_Data.htm

- The tiered approach includes the initial focus on the implementation and effectiveness assessment of Tier I non-structural pollution prevention and source control BMPs. The tiered approach is then implemented in phases in order to assess the effectiveness of the BMPs in meeting the pollutant load reduction goals. In this initial phase, Tier II structural BMPs are also implemented and assessed. Tier II BMPs target the reduction of the volume of runoff and/or a portion of the pollutant load through runoff diversion/capture and infiltration and evaporation (low impact development (LID) techniques) as well as aggressive street sweeping.
- Tier III treatment BMPs are then implemented in a second phase where the Tier I and II BMPs are not sufficiently effective in meeting target load reductions. Tier I and II BMPs are implemented before Tier III BMPs because they address the source and cause of the pollutants which is more cost effective and sustainable than capital and land-intensive treatment BMPs. As part of this initial phase, "pilot" Tier III treatment BMPs will be implemented on City-owned properties to assess their effectiveness in combination with Tier II runoff reduction techniques. Full scale Tier III BMPs will then be implemented in subsequent phases based on the effectiveness of the pilot projects.
- The *Tier II and Tier III Storm Water Best Management Practices Conceptual Designs* (Weston 2008) is a feasibility study and concept design that was completed in 2008. This study collected existing hydrologic data, prescription weather data, topographic data, and information on existing improvements within the study area.
- The *Bannock Avenue Concept Design Drawings (10%)* was completed in 2008. This study consists of conceptual design components for the project.
- The *Bannock Avenue Streetscape Enhancements Preliminary Engineering Report* is an engineering report for the project, which was completed in 2009. This report utilized a right-of-way analysis, utility as-built studies, a site topographical survey, and a preliminary Environmental Assessment to determine the practicality, priority funding mechanisms, permits, resource requirements, and the CEQA status of the project.

Study Performed	Date	Status
BEFORE June 1, 2011		
The Strategic Plan for Watershed Activity Implementation	November 2007	Complete
2008 Tier II and Tier III Storm Water Best Management Practices Conceptual Designs (Weston)	July 27, 2008	Complete
Bannock Avenue Concept Design Drawings (10%)	August 2008	Complete
Bannock Avenue Streetscape Enhancements Preliminary Engineering Report	October 5, 2009	Complete

This task is not included within the proposed budget, because funds to support this task have been provided through other funding sources.

Task 5 – Final Design: As of June 1, 2011 the project will be at a 30% design status. The 10% design for this project was completed in August 2008. The 30% design for this project will be completed in May 2011; the 60% design will be completed in July 2011; the 90% pre-final design will be completed in December 2011; and the 100% final design will be completed in March 2012.

This task is not included within the proposed budget, because funds to support this task will be sourced from the City of San Diego's Watershed Capital Improvement Projects budget.

Task 6 – Environmental Documentation: The City's Development Services Department has prepared Mitigated Negative Declaration (MND) #134590 to address impacts from the City's Jurisdictional, Watershed, and Regional Urban Runoff Management Plans (these plans have been revised per the City's Municipal Storm Water NPDES permit, issued in January 2007). In particular, the MND addresses potential environmental impacts associated with infiltration projects citywide. The MND was approved by the San Diego City Council, conjunction with approval of the City's updated Urban Runoff Management Plans, in January 2008.

The MND describes how subsequent, site-specific infiltration projects such as this project will be processed for CEQA purposes. Specifically, as long as the subsequent projects such as this one comport with certain assumptions in the MND (e.g., surveys undertaken if cultural resource impacts anticipated, no biological resources or hazardous materials present, etc.) addenda to the MND will be used in order to disclose the specific impacts at the *Bannock Avenue Neighborhood Streetscape Enhancements for Tecolote Creek Watershed Protection* project. Given the location of this project site, it is anticipated that an addendum can be prepared without any further studies being required.

This task is not included within the proposed budget, because funds to support this task will be sourced from the City of San Diego's Watershed Capital Improvement Projects budget.

Task 7 – Permitting: No permitting will be required for this project prior to initiation of the Grant Agreement (June 1, 2011). Prior to construction, a Water Pollution Control Plan will be prepared by September 2010 to ensure compliance with the municipal stormwater permit construction mandates. A Traffic Control Plan will also be prepared by September 2012 to ensure the compliance with City of San Diego Right-of-Way Construction Ordinances and regulations and to mitigate potential traffic impacts and conflicts. This task is not included within the proposed budget, because funds to support this task will be sourced from the City of San Diego's Watershed Capital Improvement Projects budget.

D. Construction/Implementation

Task 8 – Construction Contracting: Construction contracting for this project will include advertisement for bids in May 2012, awarding the final contract award in September 2012, and finalizing the Notice to Proceed in September 2012. This task is not included within the proposed budget, because funds to support this task will be sourced from the City of San Diego's Watershed Capital Improvement Projects budget.

Task 9 – Construction:

Building Materials and/or Computational Methods

Project components shall be designed to remove pollutants and priority constituents of concern in the Tecolote Creek Watershed, including bacteria, heavy metals, nutrients, pesticides, and sediment. The system shall be designed to achieve a 99% reduction in bacteria for the treated flow, in accordance with the final wet weather objective in the TMDL for Indicator Bacteria in Tecolote Creek Tributary to Mission Bay.

Within the tributary watershed of the Bannock Avenue Neighborhood, vegetated planter areas will be constructed between the existing curb and the sidewalk. Cuts will be made in the existing curbs to allow flow to exit the street paved section, as well as enter and exit the planter areas. The planter areas will be filled with cobbles and/or gravel to a depth of approximately 1 foot and planted with landscaping to be determined during final design. The cobbles and/or gravel must be prevented from spilling into the street through the curb cut by a metal screen. Where shown on the concept plans, existing sidewalks will be replaced with new pervious concrete sidewalks.

Within North Clairemont Park, a diversion structure will divert flows to a trash segregation unit, followed in series by an AbTech (Bacterial Treatment System) unit. From the AbTech unit, flows will be returned to the natural drainage course at the location of the existing storm drain system outlet headwall. The diversion structure will be sized to divert the 85th percentile storm event in order for it to be treated by the trash segregation and AbTech units. This size storm was selected because this treatment BMP is a pilot project to assess the effectiveness of this treatment technology. The larger storm event would result in a significantly larger system and higher project cost. Should this technology prove cost effective for storm flows, the system may be expanded for a larger design storm in future designs.

The project goal is to capture and infiltrate a volume from approximately the first quarter inch of rainfall landing in the tributary paved street section adjacent to each planter area. The purpose of green sidewalks is to reduce bacterial load reductions by removing trash and capturing and treating design flows in bioretention planter systems. Storm water will be diverted to bioretention and treatment planter systems from the street through curb cutouts. Diverted stormwater will be treated in the planter systems in order to achieve a 99% reduction in bacteria concentration for the treated flow and in order to significantly

reduce other priority constituents of concern. Pervious pavement will be designed to reduce the peak storm flow. Bioretention planter systems installed in the project shall consist of (1) a debris collection pad (inflow and outflow systems), (2) a crushed rock reservoir, (3) amended soils, and (4) geosynthetic lining on the street side of the bioretention planter. Pervious sidewalks shall also be installed so as to reduce the volume of storm runoff entering the storm drain and reduce the bacterial pollutant load to the storm drain. Locations and text of neighborhood educational signage regarding green streets and green sidewalks shall be incorporated into final design. The pervious pavement shall consist of (1) new ADA access routes and sidewalk, (2) pervious concrete, and (3) amended soils (base).

The treatment goal for the hydrodynamic separator and AbTech units is the 85th percentile flow rate. This system shall also consist of a hydrodynamic separator, a storm drain bypass system and storm drain clean outs. The purpose of the AbTech unit is to treat design flow to reduce the bacterial load. The AbTech unit shall have a hydraulic capacity sufficient to capture an 85th percentile SUSUMP storm event and have a footprint of at least 25-feet wide and 20-feet long (flow direction) (unit dimensions shall be determined during the final engineering design). The unit shall be designed to the design flow (approximately 9 cfs) to achieve a 99% load reduction of bacteria for the treated flow and designed for gravity flow such that the system does not cause flooding.

The hydrodynamic separator is a flow-through structure with a separation unit which removes trash and coarse sediment. Therefore, the purpose of the hydrodynamic separator is to remove trash and sediment before the design flow enters the AbTech (unit. The hydrodynamic separator shall have a hydraulic capacity sufficient to capture an 85th percentile SUSUMP storm event and connect to upstream curb storm drain cleanout and downstream ABTech unit *via* reinforced concrete pipe and be designed for gravity flow (the central separation unit will result in significant head loss, therefore the hydraulic design of the hydrodynamic separator shall incorporate sufficient head to allow gravity flow.

The purpose of the storm drain bypass is to redirect flow from a design storm exceeding the design capacity of the AbTech unit to the main branch of the storm drain. The purpose of this storm drain cleanout is to provide maintenance access to the hydrodynamic separator and storm drain bypass. The storm drain bypass shall be designed with a hydraulic capacity capable of accommodating a 100-year watershed storm event, and designed for gravity flow such that the system does not cause flooding. The storm drain cleanouts shall be designed for gravity flow in order to avoid system flooding and back up (objective shall be achieved through the incorporation of sufficient pipe offsets, diversion structures, or other structural solutions).

Construction Standards, Health and Safety Standards, Laboratory Analysis, and/or Accepted Classification Methods

Constituents selected for this Effectiveness Assessment study to be constructed for these BMPs are prioritized into Tier 1 and Tier 2 categories. Tier 1 constituents are considered a priority for water quality monitoring in this study because they are:

- consistent with other BMP monitoring guidance to address street runoff such as the Caltrans Guidance Manual: Storm Water Monitoring Protocols (Caltrans, July 2000);
- specifically identified as constituents of concern in the Tecolote Creek watersheds and/or subject to a TMDL; or
- consistent with other City monitoring efforts currently underway in the watershed, such as the San Diego Bay Watershed Urban Runoff Management Program, and the Chollas Creek Storm Drain Characterization Study.

Tier 2 constituents may also have been identified as pollutants of concern in the subject watersheds; however, adding these constituents may need to be considered in light of the available budget for sampling and analyses. Evaluation of pollutant removal effectiveness of Tier 2 constituents may also be of interest if implementation of these BMPs is being considered in other watersheds with specific water quality concerns.

Estimates of the number of samples required to yield statistically valid monitoring results are necessary for making decisions about the nature and extent of monitoring efforts. For this study, the appropriate number of samples is the number required to discern a significant difference between the influent and effluent. The sample size will depend on the specified mean percent constituent removal rate desired. Because of the variability of rainfall and runoff quality, it is necessary to sample a number of storms to generate statistically reliable answers to the study questions. The number of samples needed depends upon the variability in the data, the magnitude of the effect being studied, and the degree of confidence desired in the answer.

However, in most cases, new BMPs would not be implemented if they did not remove a significant fraction of the constituent of concern. The most commonly used confidence level in scientific studies is 95 percent. However, due to the high variability in storm water data, use of a 95 percent confidence level results in an impractical number of samples, or masks the effectiveness of BMPs known to remove pollutants. For this reason, a 90 percent confidence level is appropriate for BMP pilot studies and is the confidence level chosen for this study. The statistical procedure used to estimate the number of samples required is described in the Caltrans BMP Pilot Study Guidance Manual.

Storm selection criteria described for this Effectiveness assessment studies will likely entail a minimum 0.25 inch of rainfall and 72 hour antecedent dry period, an average of 8 storms per year can be expected.

From the statistical analysis conducted for this study, a minimum of 8 samples are required. Consideration must also be given to the number of unproductive monitoring events that are likely to occur. Rainfall may not happen as predicted, or may be of insufficient quantity (i.e., a “false start”).

When planning a study, it is reasonable to assume that one out of four sampling events will be unsuccessful because samples can also be missed due to problems with auto-samplers. In addition an operational assessment of the BMPs will be conducted during the first two storm events to ensure that the BMPs and the monitoring equipment are functioning properly. Field crews will observe and document any operational issues at the filtration units and the bioretention cells. Flows will be measured during these first two events; however, water quality samples will not be collected until it can be verified by on-site field crews that all equipment is operating properly. Therefore, considering two storm events for the operational assessment and assuming two unproductive sampling events for the required minimum 8 storms, the anticipated duration of the study would be a total of 12 storm events. Therefore it is anticipated that the study period will be 2 years.

Construction Tasks

Construction tasks for this project will include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below.

- ***Subtask 9.1 Mobilization and Site Preparation***: This subtask includes mobilization and site preparation. This subtask envisions a payment to the contractor to reimburse upfront and onetime costs including, but not limited, to items such as insurance, time spent on employee and/or subcontractor coordination, equipment rental, and material purchases. The subtask could include all costs and activities that must be undertaken in order to make sure that construction progresses quickly and efficiently before construction actually begins. Site preparation will include demolition of the concrete (AC) pavement and base and concrete and gutter. Disposal and hauling activities are also included.

  Subtask 9.2 Project Construction/Implementation: This subtask includes installation of porous pavement, which includes laying the base and concrete. Portland Concrete Cement (PCC) sidewalk, curb and gutters will also be installed, as well as the vegetated planter areas in the public right-of-way and the storm drain by-pass, storm drain clean-out hydrodynamic separator and AbTech units in the North Clairemont Park. This subtask also includes activities for erosion and traffic control. The contractor will be required to submit for approval and implement during construction erosion and traffic control measures in order to comply with City of San Diego standards and minimize water quality impacts and traffic hazards to include but not limited to an approved Traffic Control Plan and Storm Water Pollution Prevention Plans.

- ***Subtask 9.3 Performance Testing and Demobilization:*** Materials and install devices and equipment as well as improvements in the right-of-way will be tested prior to acceptance. The storm water treatment and infiltration systems shall be tested and verified for proper operation and installation during the warranty period over one winter storm cycle prior to acceptance. Planted vegetation shall be maintained and verified established before acceptance and full construction site demobilization.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: Before construction of this project, CEQA review will be conducted by the City (see Task 6) and mitigation measures will be determined and incorporated into the project, if necessary.

F. Construction Administration

Task 11 – Construction Administration: This task involves administration, coordination, and review of the construction contract and all other related construction tasks. This task is not included within the proposed budget, because funds to support this task will be sourced from the City of San Diego's Watershed Capital Improvement Projects budget.

Project 8: Pilot Concrete Channel Infiltration Project

I. Introduction

Project Sponsor

The City of Santee is the project sponsor for the *Pilot Concrete Channel Infiltration Project.*

Project Need

The City of Santee has restored the length of the unchannelized portion of the Woodglen Vista Creek. However, it is not possible to restore the channelized portion of the creek due to the proximity of residences and lack of right-of-way in this portion of the creek. An alternative way to allow urban runoff infiltration needs to be developed without compromising flood control capacity. Facilitating infiltration of dry weather flows will reduce the discharge of pollutants to receiving waters.

The San Diego River has a TMDL for bacteria and bacteria spikes have been noted in the Woodglen Vista Creek Channel, a location proposed for this pilot project. The proposed *Pilot Concrete Channel Infiltration Project* is expected to reduce bacteria levels through infiltration.

If this project is successful, then this technique can be used at other similar locations throughout the San Diego River watershed, resulting in a cumulative benefit to water quality and augmenting groundwater supplies.

Project Purpose

The *Pilot Concrete Channel Infiltration Project* will convert a portion of the concrete channel in Woodglen Vista Creek (and other channels as budget/logistics permit) to a more porous base, facilitating infiltration of dry weather flows without compromising flood control capacity.

Project Objectives

Objectives of the *Pilot Concrete Channel Infiltration* Project include:

- Garnering community participation in preparing the upstream drainage area for the project and educating the community on the benefits of this project.
- Converting a portion of the concrete channel in Woodglen Vista Creek (and other channels as budget/logistics permit) to a more porous base.
- Assisting in the attainment of bacteria TMDL waste loading allocations.

Table 3-11 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through the *Pilot Concrete Channel Infiltration Project.*

Table 3-11: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Pilot Concrete Channel Infiltration Project		●	●	○		●	●		

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***B: Effectively obtain, manage, and assess water resources data and information***. Data collected during the project will be incorporated into relevant jurisdictional, watershed, and regional urban runoff management plans. This information will be publically available so that the value of the project can be assessed and the idea implemented elsewhere.
- ***C: Further the scientific and technical foundation of water management***. This project will be conducted as a feasibility study to demonstrate how downstream water quality objectives and TMDL requirements can be met. Based on the findings of this study, it could be replicated elsewhere in the watershed.
- ***D: Develop and maintain a diverse mix of water resources***. This project will promote infiltration into the ground augementing the aquifer. The introduction of the pervious base allows infiltration along the channel, mimicking pre-development hydrology. The additional groundwater could potentially be used in water supply.
- ***F: Reduce the negative effects on waterways and watershed health caused by hydromodification and flooding***. This project eliminates some of the disadvantages associated with a concrete channel without losing the flood control benefits of the channel. Infiltration will reduce the volume of flows from the concrete channel and promote growth of plantlife within the channel.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. This project will assist in the attainment of bacteria TMDL waste loading allocations. Nutrients in runoff are absorbed by plants growing in the base of the channel. Sediment loads and turbidity in runoff are also reduced.

Project Partners

The City of Santee participates in the San Diego River Urban Watershed Management Program which incorporates the County of San Diego, and cities of El Cajon, La Mesa and San Diego.

Project Abstract

The project will be implemented as part of an overall flood control and water quality improvement program which incorporates the surveying of corrugated metal pipe (CMP) in the storm drain system, prioritization and replacement of the CMP with reinforced concrete pipe, and introduction of stormwater best management practices (BMPs) where appropriate.

The scope of this project includes the design, siting and construction of pervious areas in concrete channels within Santee. Monitoring will be conducted to assess if these pervious areas result in flow reduction and lower pollutant loads, and monitoring will be conducted to assess the impact of the CMP project on water quality, if feasible.

A primary pilot location will be the Woodglen Vista Creek channel, although other locations will be included where budget and other constraints allow. The project is being conducted as a pilot, therefore a range of techniques (Armorloc or porous concrete for example) may be used. Other jurisdictions within the watershed will be consulted to ensure that the techniques used are feasible and desirable for application throughout the entire watershed. This pilot project is currently at 5% design status.

Linkages and Synergies between Projects

The project directly links with both the Woodglen Vista Creek and Forester Creek restoration projects. These projects restored two unlined channel segments in Santee to accommodate larger storm volumes, avoiding flooding; planting the channels with native species providing additional riparian habitat, and allowing the natural functions of this habitat to restore water quality. Infiltration areas will be introduced upstream of the restored segment of Woodglen Vista Creek, to treat water prior to entering the restored segments extending the water quality and habitat benefits of the restoration without compromising capacity.

The project has synergies with the Bannock Avenue Neighborhood project as it incorporates the introduction of impervious areas and promotes infiltration within the storm drain system. Synergies can also be drawn with the sustainable landscapes program as it incorporates retrofitting existing infrastructure, reducing watershed pollutants and dry weather flows, and educating the public about the project and how they can help reduce polluted runoff.

Existing Data and Studies

This project type, scope, and focus is identified in the following plans and studies:

- City of Santee. 2009. Dry Weather Field Screening and Analytical Monitoring Program.
- City of Santee. 2009. 2009 Additional Study, Rivers and Creeks.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

This project is not a multi-phased project.

Project Map

Figure 3-9 provides a project site map for the *Pilot Concrete Channel Infiltration Project*, showing boundary of project, surface waters, groundwater basins, locations of concrete channels, DACs layer, and existing monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

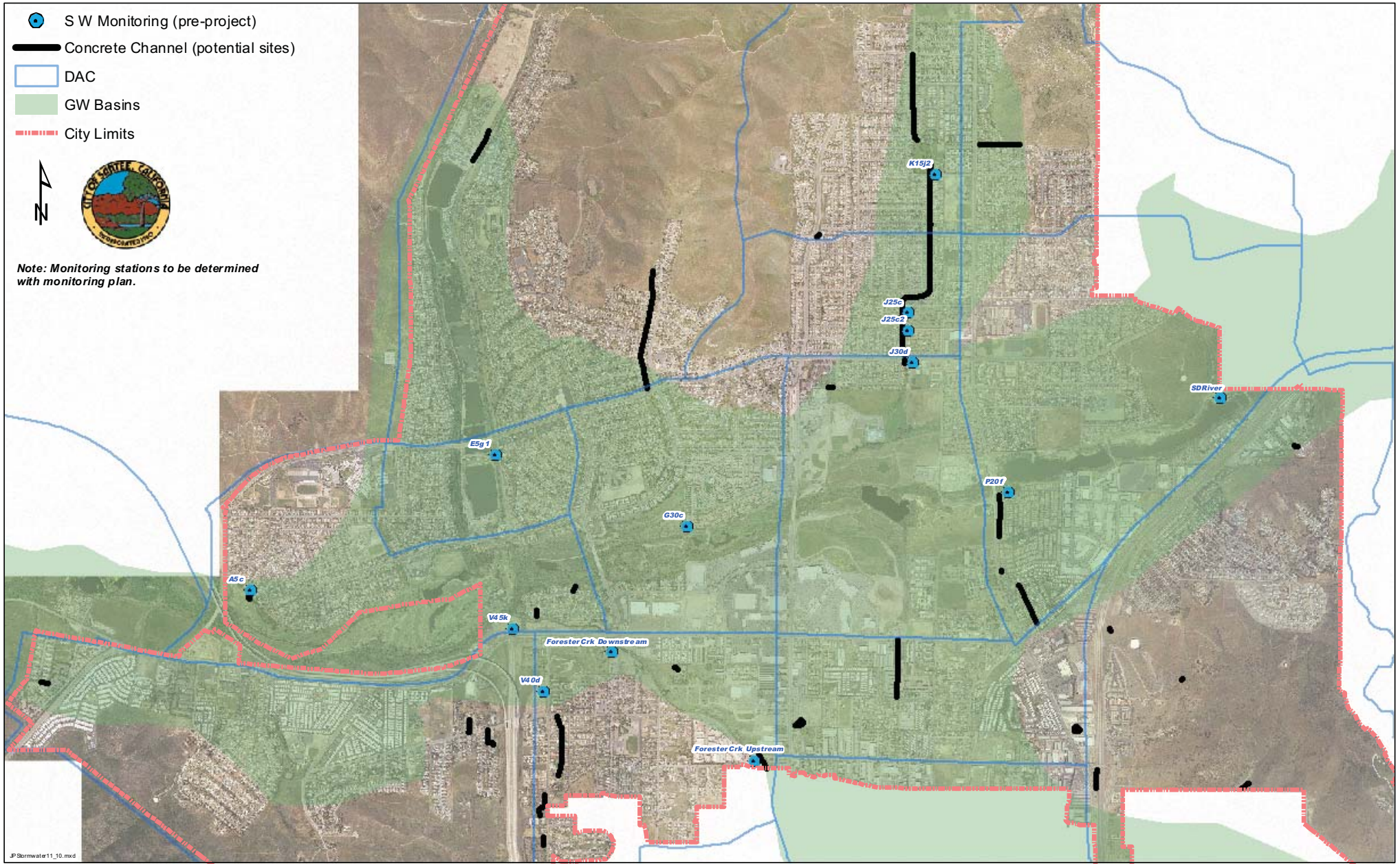
A. Direct Project Administration Costs

Task 1 – Project Administration: Prior to initiation of the Grant Agreement (June 1, 2011), project administration will be required to secure approval of the 2007 San Diego IRWM Plan by the Santee City Council in December 2010. The project will be added as a standing item on the agenda for watershed meetings with other jurisdictions within the San Diego River. Attendees will be briefed on the status of the project and encouraged to provide feedback on the project design. Fulfilling this task will require labor from a Principal Civil Engineer and the Stormwater Program Manager.

Following initiation of the Grant Agreement (after June 1, 2011), this task will involve project administration, coordination, and review of all project tasks. In addition, the project will continue as a standing item on the agenda for watershed meetings with other jurisdictions within the San Diego River. Attendees will be briefed on the status of the project and encouraged to provide feedback on the project design. The City will also make the data available for other jurisdictions within the San Diego Region and beyond to assist them in determining if this method could be used in their watersheds. Fulfilling this task will require labor from a Principal Civil Engineer and the Stormwater Program Manager. Deliverables for this task will include invoices and quarterly reports that will be provided every three months, with the first submittal being issued precisely three months after the date of the grant award.

Figure 3-9: Pilot Concrete Channel Infiltration Project

Project 181 (City of Santee) Potential Project Locations



Labor Category	Level of effort	Status
BEFORE June 1, 2011		
Principal Engineer	5 hours	Underway
Stormwater Program Manager	10 hours	
AFTER June 1, 2011		
Principal Engineer	21 hours	Not started
Stormwater Program Manager	82 hours	

Task 2 – Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program in accordance with CCR §16421-16439. The City of Santee Third Party Labor Compliance Program (LCP) is currently under development. The City plans to contract with a technical expert who will ensure compliance. Deliverables will be consistent with the compliance requirements of the LCP.

Task 3 – Reporting: All reporting for this project will occur after the Implementation Grant Agreement is formalized (after June 1, 2011). In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start	Not started
Project Completion Report	Upon project completion	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: The following provides a list of necessary studies that have been completed in order to assess and evaluate the project.

- *Review of Prior Monitoring Data* (Dry Weather Monitoring Report 2009, 2010; Additional Study Report 2009, 2010)) was carried out for channels to be covered in the pilot study for the project. The City of Santee has conducted dry weather monitoring twice-a-year in the storm drain system over the past decade. Recent data (from 2008-2010) from this monitoring has been collated to be used as a baseline for the project pilot study. The collated data includes information regarding flow, pH, conductivity, turbidity, bacteria, nitrate-nitrogen and orthophosphate.
- During July to December 2011, a *Literature Review* will be conducted to review the variety of options available for introducing pervious layers into lined channels. Data on these options was researched to evaluate their relative effectiveness, including data on water quality or flow.
- *Community Consultation and Education*. A variety of methods will be used including website updates, articles in the Santee Review (community magazine), letters to residents immediately in the vicinity of the project, and community clean-ups of the project locations.
- *Geotechnical Recommendations*. Pervious layers will be introduced into concrete channels, whose structural integrity need to be maintained. Also, little is known about the subsurface conditions and how these will impact the integrity of the channels. A registered geotechnical engineer is required to review the project locations, subsurface conditions, and preliminary design to ensure that the integrity of the channels is maintained.

The following provides a list of necessary studies that will be completed after the Implementation Grant Agreement is in place, in order to assess and evaluate the project.

- *Project Monitoring Work Plan* consistent with the Final Design will be completed six months after the Grant Agreement. These documents will include incorporation of literature review, engineering information, design and quantities.
- The *Final Report on Project Implementation* will be completed eighteen months after the Grant Agreement. This report will include data on changes in flow rate and water quality in channel(s) within the project area as well as an assessment of function in flood conditions.

Study Performed	Date	Status
BEFORE June 1, 2011		
Review of Prior Monitoring Data	2008-2010	Underway
Literature Review	May 2011	Underway
Community Consultation and Education	Ongoing	Underway
Geotechnical Recommendations	December 2011	Not started
AFTER June 1, 2011		
Project Monitoring Work Plan	December 2011	Not started
Final Report on Project Implementation	December 2012	Not started

Task 5 – Final Design: As of June 1, 2011 the project will be at 10% conceptual design status. The 10% conceptual design for the project was completed on May 1, 2011.

Completion of the project design is anticipated to occur as follows: 30% concept design will occur by December 2011, 60% design will be completed by March 2012, 90% pre-final design will be finalized by April 2012, and 100% final design is anticipated to occur by May 2012.

Solicitation efforts will include a request for proposals for geotechnical consulting services in September 2011. Final design documents will include the final project design.

Design Submittals	Date	Status
BEFORE June 1, 2011		
10% (conceptual) Design	May 1, 2011	Underway
AFTER June 1, 2011		
30% (concept) Design	December 2011	Not started
60% Design	March 2012	Not started
90% (pre-final) Design	April 2012	Not started
100% (Final) Design	May 2012	Not started

Task 6 – Environmental Documentation: The City of Santee will finalize CEQA Documentation in May 2011. This documentation included a preliminary assessment, and documentation of that the project is compliant with CEQA. This process is required prior to the approval of any City of Santee project.

Environmental Documentation	Submittal	Status
BEFORE June 1, 2011		
CEQA Documentation	May 2011	Underway

Task 7 – Permitting: This project will not require any permits.

D. Construction/Implementation

Task 8 – Construction Contracting: A preliminary request for proposals will be prepared so that it can be finalized and issued immediately on award of the grant. After June 1, 2011 (initiation of Grant Agreement), construction contracting for this project will include advertisement for bids, preparation of bid documents, issue of bid, evaluation of bids, and award of construction contract. Formalization of the Notice to Proceed will occur in July 2012.

Task 9 – Construction: All construction for this project will occur after formalization of the Implementation Grant Agreement (after June 1, 2011).

Building Materials and/or Construction Standards

The building materials will have been chosen during final design, and will have reference to the Construction Standards Manual, where applicable. Porous paving, articulated block, and/or other porous base will be designed and built to allow infiltration of runoff into the subgrade.

Laboratory analysis will be conducted by an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. In addition, the City of Santee Injury and Illness Prevention Program Procedures will be followed.

Construction Tasks

Construction tasks for this project will include Mobilization and Site Preparation, Project Construction, and Performance Testing and Demobilization. These subtasks are described in detail below.

- ***Subtask 9.1: Mobilization and Site Preparation*:** This subtask will involve: notifying adjacent property owners and providing information in other City media; surveying and marking out the project area; removing trash and debris from the access route and construction area; redirecting dry weather discharges around the work area and installing stormwater BMPs as required; and mobilizing equipment to the project site.
- ***Subtask 9.2: Project Construction*:** Project construction will involve: cutting and removing concrete areas; preparing exposed subgrade for introduction of the pervious area, which may include introducing or enriching the soil subgrade; installing finished pervious surface in the channel; and removing debris, equipment and other materials from the channel.
- ***Subtask 9.3: Performance Testing and Demobilization***: Project performance testing and demobilization will include: conducting performance evaluations of various types of pervious areas; preparing a final report, installing information sign boards; preparing outreach information for the community on the project and its successes; and providing information on the project (tours, papers, presentations, project summaries) to peers in other jurisdictions.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: No environmental mitigation or enhancement is required as the project does not remove any environmental resources. The project is solely located within City infrastructure.

F. Construction Administration

Task 11 – Construction Administration: This task involves administration, coordination, and review of the construction contract and all other related construction tasks. This task will require labor from a Principal Engineer, the Stormwater Program Manager, an Associate Engineer, and an Engineering Inspector.

Labor Category	Level of effort	Status
Principal Engineer	30	Not started
Stormwater Program Manager	55	Not started
Associate Engineer	70	Not started
Engineering Inspector	55	Not started

Project 9: San Diego Regional Water Quality Assessment and Outreach Project

I. Introduction

Project Sponsor

San Diego Coastkeeper is the project sponsor for the *San Diego Regional Water Quality Assessment and Outreach Project*.

Goals, Objectives, Purpose, and Needs

The *San Diego Regional Water Quality Assessment and Outreach Project* brings together community members to understand and actively participate in the monitoring of their watershed health. Critical funding through Proposition 84 builds on San Diego Coastkeeper's established citizen volunteer water quality monitoring program and continues important regional water quality assessment, baseline data acquisition, and analysis to support effective water quality management and source and non-point source pollution identification and reduction.

Project Need

While recent regulatory programs (e.g., MS4 Stormwater Permit R9-2007-0001) and the Surface Water Ambient Monitoring Program (SWAMP) have increased the monitoring efforts and availability of surface water quality data in the County's watersheds, there is still insufficient information to adequately assess the status of many local rivers and streams. Additional ambient water quality data is needed to establish a baseline of water quality conditions in San Diego County watersheds, identify impaired water bodies, and provide focus for non-point source pollution prevention efforts. This data can also be used for Clean Water Act 305(b) assessment purposes and 303(d) listings.

The project continues important regional water quality assessment work completed by San Diego Coastkeeper through funding provided under Proposition 50. The funds provided by Proposition 50 will be largely spent down by year-end 2011. In order to continue the work that Proposition 50 made possible, this Proposition 84 grant, commencing January 2012, is essential. Proposition 84 funds will leverage partnerships we have built with other organizations and funders and a trained core of citizen water monitoring volunteers.

Project Purpose

The *San Diego Regional Water Quality Assessment and Outreach Project* addresses the growing information and involvement gap between water agencies and the community. The project will close this gap by promoting volunteer monitoring that uses accepted monitoring and analytical methodologies, increasing public awareness and understanding of water quality data, and conducting youth and community events such as World Water Monitoring Day. The *San Diego Regional Water Quality Assessment and Outreach Project* will:

- Conduct monthly volunteer water quality monitoring to develop a baseline for water quality in the county;
- Provide every other month water quality monitoring trainings that introduce and discuss current water quality topics, data access, analysis and interpretation for community groups;
- Add two years of volunteer monitoring results to the existing on-line publicly accessible data repositories;
- Educate stakeholders and community members about the importance of maintaining water quality and how to interpret data;
- Develop and distribute annual Watershed Reports that address pollutants of concern and identify opportunities for more effective monitoring to inform pollution prevention efforts

Project Objectives

The San Diego Regional Water Quality Assessment and Outreach Project seeks to accomplish the following objectives:

- *Assess water quality in San Diego County Watersheds using trained volunteers to collect and analyze samples*.
    - Continue existing efforts by San Diego Coastkeeper to educate and engage community members on water quality issues and to monitor water quality in local watersheds
    - Conduct monitoring at regular intervals (6 - 12 times a year, conditions permitting) at locations that are currently monitored by Coastkeeper under a Proposition 50 grant, as defined in that project's Monitoring Plan.
    - Provide data to fill in the spatial and temporal data gaps (increasing the number of samples in a water body or hydrological unit for better representation). The data may also be useful in increasing the amount of surface water data for a particular constituent in order to help determine an appropriate water quality standard where none currently exists.
- *Share collected water quality data*. Data collected through this project will be incorporated into two web-based, publicly-accessible data portals: the water quality page on the San Diego Coastkeeper web site (http://www.sdwatersheds.org/wiki/Main_Page) and the state California Environmental Data Exchange Network (CEDEN).
- *Establish Regional Water Monitoring Training and Resource Center*. Coastkeeper and its partners will teach a minimum of 100 members of the community – citizens, decision makers, tribal members, and other stakeholders –how to collect and analyze water quality samples, as well as access and interpret publicly available water quality data to identify water quality impacts on a watershed level.
- *Develop Outreach Materials to Inform the Public and address Non-Point Source Pollution*. Coastkeeper will work with community members to develop annual Watershed Reports that address pollutants of concern as tangible products of the monitoring effort.
- *Reduce amount of gross pollutants (trash) in local waterways*. Trash removal events will be conducted in five locations in different watersheds. Trash will be quantified using SWAMP comparable Rapid Trash Assessment Worksheets.

Table 3-12 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *San Diego Regional Water Quality Assessment and Outreach Project.*

Table 3-12: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
San Diego Regional Water Quality Assessment and Outreach Project	●	●	●				●	○	

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder/community involvement and stewardship***. This project will engage community members to receive training in and perform water quality sample collection and analyses, as well as participate in outreach events to promote understanding of water quality issues and how to access data.
- ***B: Effectively obtain, manage, and assess water resource data and information***. This project will manage and report data in a SWAMP compatible format, and send data to the state CEDEN data portal for public access and viewing. Samples will be collected and analyzed in accordance with the project sponsor's Quality Assurance Project Plan.

- ***C: Further the scientific and technical foundation of water quality management***. This project will build on data generated in the 2007 project to characterize water quality in the county's watersheds. Samples will be analyzed for ambient, nutrient, bacterial, toxicity, dissolved metal and bioassessment indicators. Data will be provided to regulatory decision makers.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. This project will include trash removal events from inland waterways by I Love A Clean San Diego. Data will be collected during events to support strategic planning to reduce the need for pollutant removal by addressing the causes of pollution, e.g. commercial practices and behavioral changes.
- ***H: Protect, restore, and maintain habitat and open space***. The project will generate data and remove trash from county watersheds. Both components are vital for watershed management in protecting and preserving surface water quality. Pollutant removal will take place in natural habitats, thereby restoring to some degree these open spaces to their natural state.

Project Partners

Project partners in the *San Diego Regional Water Quality Assessment and Outreach Project* include: Surfrider Foundation-San Diego Chapter, I Love A Clean San Diego, San Diego State University Foundation, Golden State Flycasters, Batiquitos Lagoon Foundation, San Diego Canyonlands, Southwest Wetlands Interpretive Association, and the Jacobs Center for Neighborhood Innovation.

Project Abstract

The *San Diego Regional Water Quality Assessment and Outreach Project* continues critical work conducted by San Diego Coastkeeper through 2011 as part of the Proposition 50 funding cycle. The project will engage community stakeholders to collect and analyze surface water samples in eight to nine watersheds throughout San Diego County and conduct trash removal in these areas. Samples will be analyzed for physical, chemical, bacterial, dissolved metals and nutrient constituents, as well as toxicity and bioassessment indicators. Resultant water quality data will be publically accessible to support public involvement in water resource conservation and stewardship of watershed function and health.

Completion of design is not relevant to this project, because it will not include final design efforts.

Linkages and Synergies between Projects

This project demonstrates significant linkages and synergies with other regional projects. It builds capacity for regional efforts through volunteer training that will benefit other regional projects. Education and outreach efforts integrate objectives of other projects, and data sharing increases the overall goal to generate robust regional data.

Other regional projects that benefit include:

- *Lake Hodges Water Quality and Quagga Mitigation Measures* (Project 5)
- *Chollas Creek Integration Project* (Project 10)
- *Regional Water Data Management Program* (Project 11)

Larger projects and/or entities in the region that benefit include:

- Batiquitos Lagoon Foundation
- County of San Diego – Project Clean Water
- Escondido Creek Conservancy
- Friends of Famosa Slough
- Friends of the River (http://www.friendsoftheriver.org)
- Golden State Flycasters water quality monitoring and habitat enhancement
- Los Penasquitos Research Reserve Project (Water Monitoring & Volunteers)
- Preserve Calavera

- San Diego River Conservancy and/or The San Diego River Park Foundation and/or San Diego River Watershed Workgroup
- San Diego River Watershed Monitoring Workgroup
- San Diego Surfrider Blue Water Task Force Project
- San Dieguito River Park
- San Elijo Lagoon Conservancy
- THINK BLUE's Chollas Creek Water Quality Protection & Habitat Enhancement Project
- Tijuana National Estuarine Research Reserve Projects (Water Monitoring & Volunteers)

Existing Data and Studies

This project type, scope, and focus is identified in the following plans and studies:

- San Diego Coastkeeper. Annual Watershed Reports.

Please note that the aforementioned document is not contained as part of this Implementation Grant Proposal, because it is not yet finalized. This document is anticipated to be finalized in March 2011.

Project Timing and Phasing

The *San Diego Regional Water Quality Assessment and Outreach Project* is a continuation of water quality monitoring, community outreach, and trash removal objectives that were initiated by a project of the same name funded by Proposition 50. However, this project is not dependent upon work started under Proposition 50; all of the required data management and display tools, sample analyses protocols and quality controls, and partnerships for both the Proposition 50 work and the proposed Work Plan are in place. The necessary groundwork for the implementation of this project has already been laid. Collection of data and trash removal in the proposed Work Plan are not contingent upon the same work conducted under the Proposition 50 grant.

Project Map

Figure 3-10 provides a project site map for the *San Diego Regional Water Quality Assessment and Outreach Project*, showing boundary of project, surface waters, groundwater basins, DACs layer, and proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

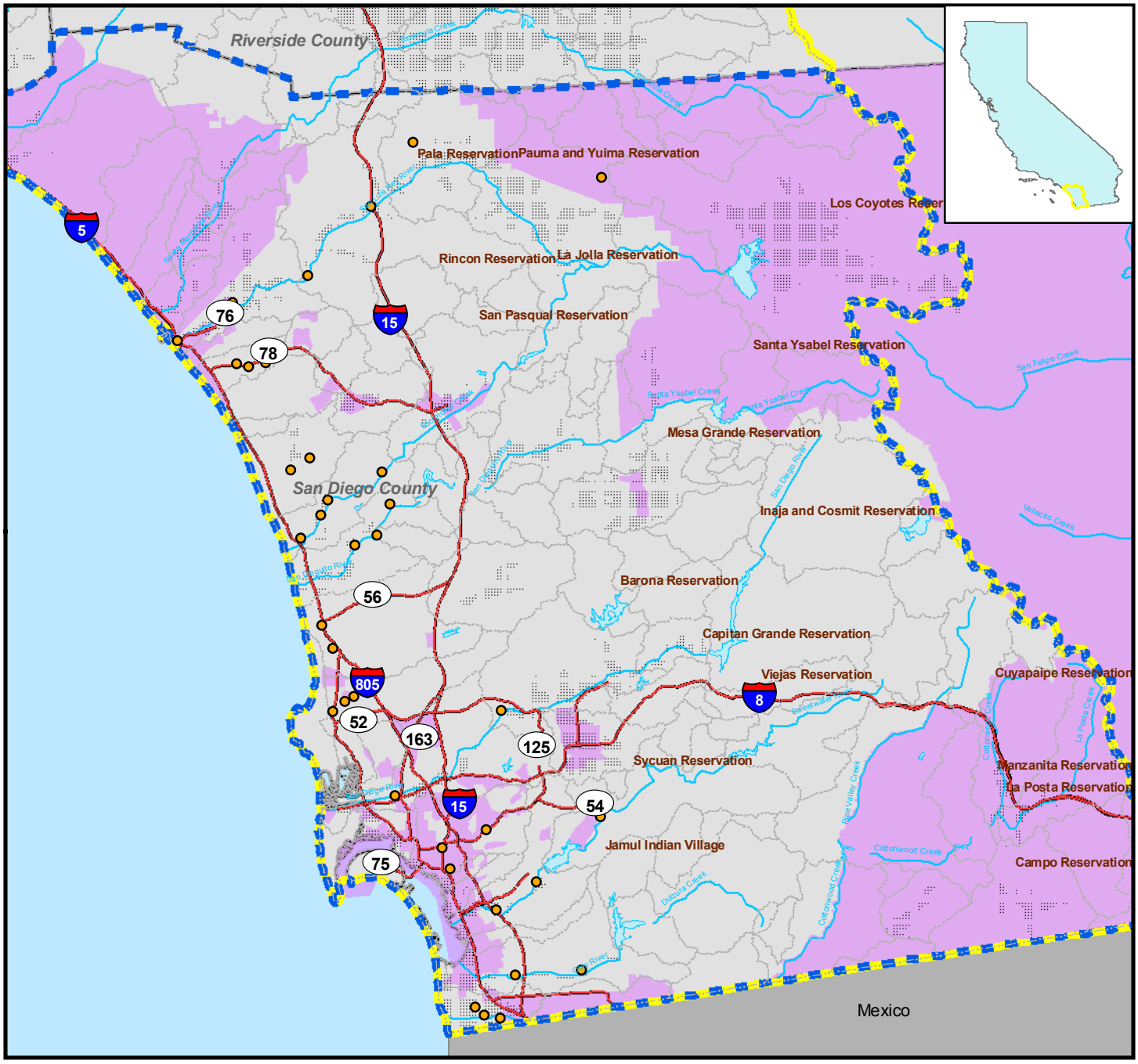
SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR.

A. Direct Project Administration Costs

Task 1 – Project Administration: This project will involve project administration after the Implementation Grant Agreement is formalized (after June 1, 2011). Project administration will involve coordinating various project elements with project partners. Such coordination efforts will require preparing contracts for dissolved metal analysis, toxicity, trash removal, and bio-assessment. In addition, if needed, Memorandums of Understanding (MOUs) may be formed with the City of San Diego, San Dieguito Watershed Council, and Groundwork San Diego to integrate monitoring efforts. In addition, project administration will involve administration, coordination, and review of all project tasks. Completing this task will require Coastkeeper staff time as follows:

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Project Manager	60 hours	Not started
Lab Coordinator	39 hours	Not started
Data Coordinator	33 hours	Not started

Figure 3-10: San Diego Regional Water Quality Assessment and Outreach Project Map



Legend

- Regional Water Quality Assessment and Outreach Project
- Monitoring Locations
- Watersheds
- Groundwater Basins
- Median Household Income <$38,000
- San Diego IRWM Region
- Funding Area Boundary
- Ocean
- Waterbody
- River
- Freeway
- Mexico
- County

N

0 2.5 5 10
Miles

RMC

U.S. Census Bureau, 2000 Census, Median Household Income by Census Tract, Available: http://www.sandag.cog.ca.us/resources/maps_and_gis/gis_downloads/admin.asp
Tribal Lands, Available: http://www.sangis.org/Download_GIS_Data.htm

Task 2 – Labor Compliance Program: This project will not involve construction activities or any other activities that would necessitate a Labor Compliance Program.

Task 3 – Reporting: In order to assess progress and accomplishments of the project, the following submittals will be completed by each indicated date.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start	Not started
Project Completion Report	January 2014	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation: This task will involve the actions necessary to complete Subtask 4.1: Regional Water Monitoring Training and Resource Center. These actions include:

- ***Subtask 4.1 – Establish Regional Water Monitoring Training and Resource Center***. This task involves the following activities necessary to establish the Regional Water Monitoring Training and Resource Center at Coastkeeper:
    - *Establish Technical Advisory Committee*: Coastkeeper will convene the project Technical Advisory Committee (TAC) that was previously formed during Proposition 50 work. The TAC will periodically meet to review project progress. Coastkeeper will attend TAC meetings and other meetings with regional watershed groups and local agencies. From these meetings, Coastkeeper will collect notes regarding implementation of monitoring and data display.
    - *Confirm Sampling and Analysis Methodologies*: Coastkeeper will build and implement consensus of the stakeholder panel (including Watershed Urban Runoff Management Program groups) with regards to sampling methodologies that will be most helpful to the San Diego region. From this process, Coastkeeper will obtain input regarding sampling and analysis methodologies listed in the Coastkeeper Quality Assurance Project Plan.
    - *Water Quality Training Workshops*: Coastkeeper will conduct water quality training workshops for volunteers every other month. From these workshops, Coastkeeper will collect sign-in sheets in order to track attendance and participation.

Study Performed	Date	Status
AFTER June 1, 2011		
Establish Technical Advisory Committee	Jan 2012 - Sept 2013	Not started
Confirm Sampling and Analysis Methodologies	June 2011 - Dec 2011	Not started
Water Quality Training Workshops	Every other month from Jan 2012 - Dec 2013	Not started

Task 5 – Final Design: Not applicable.

Task 6 – Environmental Documentation: Environmental documentation for this project is not required as this is a conceptual design project.

Task 7 – Permitting: Not applicable.

D. Construction/Implementation

Task 8 – Construction Contracting: This project will not involve construction contracting.

Task 9 – Construction: Implementation of the *San Diego Regional Water Quality Assessment and Outreach Project* will involve two tasks:

- ***Subtask 9.1 – Develop and Implement Public Outreach and Education Campaign***: Coastkeeper's public outreach campaign will focus on teaching the general public about the importance of surface water quality and understanding the monitoring data within the region's watershed. Empowered by this knowledge and hands-on experience in the watersheds and laboratory, residents will have the ability to protect their local water quality through advocacy and direct action. Outreach activities will include the following:
    - Conduct monthly water monitoring events covering watersheds throughout the County
    - Conduct trash removal events five times per year at locations throughout the County
    - Analyze, manage and present water quality data for 28 – 33 sites per month. Data will be posted on www.sdwatersheds.org
    - Develop and distribute outreach materials via web site and various meetings and events, including World Water Monitoring Day and Data Management Summit
- ***Subtask 9.2 – Manage Data, Analyze Data, and Develop Regional Watershed Reports***. Coastkeeper will analyze the collected data and develop regional Watershed Reports that address pollutants of concern and identify opportunities for more effective monitoring to inform pollution prevention efforts.

This project continues work currently performed with funding from Proposition 50. In order to ensure successful implementation of the project, it is imperative that monthly water monitoring and trash removal events take place throughout San Diego County during all of 2010 and 2011. Funding that commences in January 2012 will enable San Diego Coastkeeper to ensure continuous data collection and management. This, in turn, will make it possible to achieve the overall goal of establishing baseline data and validity of the overall regional data set.

San Diego Coastkeeper volunteers will perform 1,680 hours of work and non-state grant funding will be used to fund employee salaries to coordinate and implement monthly monitoring and trash removal events.

Activity	Date	Status
AFTER June 1, 2011		
Conduct monthly water monitoring events covering watersheds throughout San Diego County	Monthly from Jan 2012 - Dec 2013	Not started
Conduct monthly trash removal events at locations throughout San Diego County	Five times each in 2012 and 2013	Not started
Analyze, manage and present water quality data for 28 – 33 sites per month. Data will be posted on www.sdwatersheds.org	Monthly from Jan 2012 - Dec 2013	Not started
Watershed Reports	Fall 2012 and Fall 2013	Not started
Develop and distribute outreach materials via web site and various meetings and events, including World Water Monitoring Day and Data Management Summit	Fall 2012 and Fall 2013	Not started

All samples will be collected and analyzed in accordance with Coastkeeper standard operating procedures for sample collection and Coastkeeper Laboratory Monitoring Plan and Quality Assurance Project Plan (QAPP). The QAPP was approved by San Diego Regional Water Quality Control Board in Sept 2010.

E. Environmental Compliance/Mitigation/Enhancement

Task 10- Environmental Compliance/Mitigation/Enhancement: This project does not involve construction, development or pollution generating activities. This project involves volunteers collecting and analyzing water quality samples. Efforts are made to place volunteers in watersheds near their homes to minimize carbon foot prints associated with driving to monitoring sites.

F. Construction Administration

Task 11- Construction Administration: Not applicable.

Project 10: Chollas Creek Integration Project

I. Introduction

Project Sponsor

The Jacobs Center for Neighborhood Innovation is the project sponsor for the *Chollas Creek Integration Project.*

Project Need

The *Chollas Creek Integration Project* (Projects #159 and 186 in the San Diego IRWM online project database) is needed to address water quality, flooding, and habitat protection concerns within the disadvantaged communities surrounding Chollas Creek (Pueblo Hydrologic Unit). The Chollas Creek watershed has been subject to urban runoff pollution and hydromodification by adjacent landowners and poor maintenance over the past few decades. Through analysis of hydrologic conditions and identification of pollution prevention strategies, these concerns will be addresses. Further, development of a stakeholder-driven water management process will benefit the disadvantaged communities by engaging them in the identification of key watershed issues and priorities.

This project will also restore riparian habitat and improve flood management in Chollas Creek Section 2A in order to improve environmental health/safety, surface water quality, and availability of green open space for the Encanto area, a disadvantaged urban community.

Project Purpose

The purpose of the *Chollas Creek Integration Project* is to gather and generate scientific data and stakeholder input to form an integrated planning process for the Pueblo Hydrologic Unit that will update the Chollas Creek Enhancement Program and establish implementation strategies. Further, this project will restore native habitat and reduce flooding hazards within Chollas Creek (Section 2A), which will provide baseline data for future water quality and habitat improvements in the Pueblo watershed. The project improves and maintains Chollas Creek as a natural urban drainage system that serves as a major conduit for stormwater runoff from its headwaters in La Mesa and Lemon Grove to San Diego Bay.

Project Objectives

The *Chollas Creek Integration Project* seeks to accomplish the following objectives:

- Develop a stakeholder-driven watershed management process that will benefit the disadvantaged communities surrounding Chollas Creek;
- Develop an Opportunities Assessment that improves water quality, reduces flooding, and identifies land use opportunities for preserving open green space and habitat; and
- Restore habitat and improve flood management of Chollas Creek Section 2A to improve environmental health/safety, surface water quality, and availability of green open space for the Encanto area, a disadvantaged urban community.

Table 3-13 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through implementation of the *Chollas Creek Integration Project.*

Table 3-13: Contribution to IRWM Plan Objectives

Proposal Project	Contribution to IRWM Plan Goals and Objectives								
	A	B	C	D	E	F	G	H	I
Chollas Creek Integration Project	●	●				●	●	●	

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- ***A: Maximize stakeholder/community involvement and stewardship.*** Utilize a stakeholder-driven process to develop a conceptual watershed management work plan, prioritize restoration and maintenance needs, develop funding strategies, and institutionalize community-based water and habitat conservation and stewardship. Chollas Creek communities will be engaged in stakeholder-driven meetings to understand neighborhood creek problems and opportunities in the context of the watershed-wide steps necessary to resolve problems.
- ***B: Effectively obtain, manage, and assess water resource data and information***. Complete a comprehensive analysis of existing conditions, constraints and opportunities for habitat protection/restoration, flood control, water quality, hydrology, climate, soils, topography, geology, biological resources, invasive species, floods, land use, impervious surfaces, and public access/recreation. The data will drive the recommendations, and will be widely shared.
- ***F: Minimize the negative effects on waterways and watershed health caused by hydromodification and flooding***. Based on hydrological data, this project will identify flooding problems and locations where flood plain widening and flood containment through habitat restoration is feasible. Within Chollas Creek Section 2A, this project will reduce flooding caused by channelization, soil erosion/sedimentation, and dumping of trash and construction debris into the creek through structural modifications and habitat restoration.
- ***G: Effectively reduce sources of pollutants and environmental stressors***. The Opportunities Assessment will compile/generate the watershed hydrological data needed to recommend and prioritize water quality improvement strategies, including pollution control projects and low impact development structural approaches. This project will also reduce storm water contamination and sedimentation in Chollas Creek Section 2A through replacement of non-native plants with native vegetation (biofiltering), cleanup of the creek bed, pollution prevention outreach/education and monitoring/maintenance (stewardship).
- ***H: Protect, restore and maintain habitat and open space***. The Opportunities Assessment will identify and prioritize location and types of upland and wetland restoration projects in the Pueblo watershed. This project will also restore naive habitat within Chollas Creek Section 2A by replacing non-native plants with native riparian vegetation (including Laurel Sumac, California Holly, Coastal Sagebrush, and willows), removing debris, and protecting seasonal nesting areas within the creek.

Project Partners

The following organizations are project partners*:* Groundwork San Diego-Chollas Creek; San Diego Coastkeeper; City of San Diego Planning Department; Encanto Planning Group; City of San Diego Parks and Recreation; Urban Corps; Jackie Robinson YMCA; and City of San Diego Stormwater Division.

Project Abstract

The *Chollas Creek Integration Project* will prepare the Chollas Creek Enhancement Program for full-scale implementation by providing a comprehensive analysis of creek conditions, opportunities and constraints for habitat protection, restoration, enhancement, preventing pollution and reducing storm water TMDLs. The Opportunities Assessment will then prioritize projects and match them to funding opportunities.

Within Chollas Creek Section 2A, the project partners will restore creek habitat, prevent surface water pollution, and reduce erosion and flooding associated with channelization. Through the removal of concrete and debris from the creek, widening creek bank slopes (treatment of hydraulic problem), and soil erosion prevention measures, flooding contributors such as velocity and sedimentation will be reduced and Section 2A will be stabilized for 100-year design flows. Through cultivation of native plant species, removal of debris and trash, and maintenance of a soil creek bottom to promote biofiltration, the project will reduce toxic metals and bacteria in the creek steam and other environmental stressors. The creek restoration conceptual design has been initiated. 10% conceptual design has been completed to date.

Linkages and Synergies between Projects

San Diego CoastKeeper's *Regional Water Quality Assessment and Outreach Project* (Project #26 in the San Diego IRWM online project database) is linked with the *Chollas Creek Integration Project* by providing scientific data on water quality within the Pueblo watershed and engaging community stakeholders. Water quality data collected will be accessible to support ongoing public involvement and stewardship, including *Chollas Creek Integration Project* community stakeholder outreach, education and engagement activities.

The Opportunities Assessment will address the implementation of specific projects identified in the Chollas Creek Enhancement Program (City of San Diego 2002). The Opportunities Assessment will build on the work completed in that planning effort.

Chollas Creek Section 2A Restoration expands upon habitat restoration completed in the connecting Encanto tributary and provides baseline data for the Opportunities Assessment for learning about Chollas Creek Enhancement Program implementation opportunities and challenges.

Existing Data and Studies

This project builds upon the following existing plans and studies:

- City of San Diego. September 2006. Chollas Creek TMDL Source Loading, Best Management Practices, and Monitoring Strategy Assessment.
- City of San Diego. May 2002. Chollas Creek Enhancement Program.
- Jacobs Center. October 2008. Chollas Creek Section 2A Restoration Biology Study.
- Jacobs Center. October 2008. Chollas Creek Section 2A Restoration Hydrology Study.

These documents are contained on a supplementary CD that was submitted as part of this Implementation Grant Proposal.

Project Timing and Phasing

The Opportunities Assessment will operate in parallel with the Chollas Creek Section 2A Restoration, which will inform the analysis and planning for implementation of the Chollas Creek Enhancement Program throughout the larger watershed. The Chollas Creek Section 2A Restoration represents the continuation and completion of habitat restoration, water quality improvements, and flood hazards reduction within an 8-acre segment of South Chollas Creek specific to the smart-growth Village at Market Creek. It will operate on a design, permitting, and construction schedule in parallel with the Opportunities Assessment, with nexus points for data sharing, meetings, and community involvement. As the restoration activities progress on this creek segment, the data generated and issues addressed will inform the Opportunities Assessment portion of this integrated project, benefiting future efforts to improve the Pueblo Hydrologic Unit.

Project Map

Figure 3-11 provides a project site map for the *Chollas Creek Integration Project*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

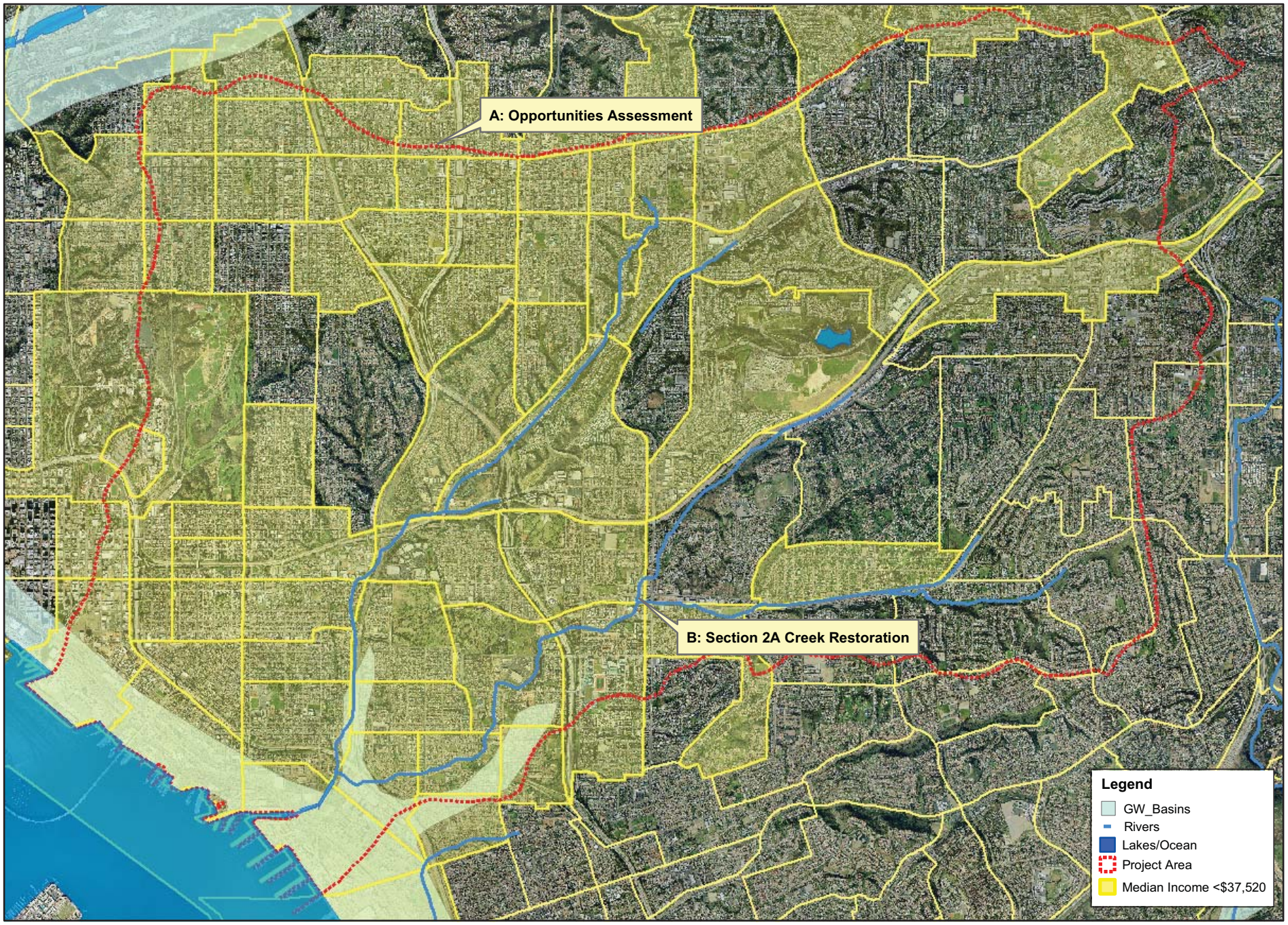
II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR. The *Chollas Creek Integration Project* will contribute $27,000 to these administrative fees.

Figure 3-11: Chollas Creek Integration Project Map

Chollas Creek Project Area



Base Map: SanGIS
Map: Jacobs Center for Neighborhood Innovation

A. Direct Project Administration Costs

Task 1 – Project Administration: A contracting agreement (e.g., Memorandum of Understanding) between the Jacobs Center for Neighborhood Innovation (the project lead) and Groundworks San Diego-Chollas Creek (a project partner) will be in place before the Implementation Grant Agreement is in place (before June 1, 2011).

The following table lists the project administration costs that are anticipated after the Implementation Grant Agreement is initiated (after June 1, 2011). These project administration costs will be incurred in order to complete procedures for coordination with Groundworks San Diego-Chollas Creek, including project status update reports and communications, monthly and/or as needed meetings, and data sharing of technical data and stakeholder input. In addition, this task involves other project administration costs associated with project administration, coordination, and review of all following project tasks.

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Administration Support	60	Not started
Grants Administration	140	Not started
Program Management (GWSDCC)	54	Not started

Task 2 – Labor Compliance Program: This task includes the work necessary to establish and adopt a Labor Compliance Program (LCP) in accordance with CCR §16421-16439. This LCP will be approved by the California Department of Industrial Relations, and details of the LCP will be included within the project's Annual Report.

JCNI will recruit and hire a State-certified/approved consultant to assist in developing the LCP for the Section 2A Creek Restoration construction subcontractor work, to monitor vendor compliance and identify any deviations, and to provide information for the project's Annual Report. JCNI has developed LCPs for past creek restoration and construction work and has experience implementing an LCP.

Task 3 – Reporting: In order to assess progress and accomplishments of the project, the following submittals will be completed after the Implementation Grant Agreement is in place (after June 1, 2011).

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start	Not started
Project Completion Report	June 30, 2013	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation : The following provides a description of necessary studies that have been completed or will be completed prior to June 1, 2011 for the project.

- The *Chollas Creek Section 2A Hydrology Study* was completed in October 2008, and utilized flood management calculations to identify the movement, distribution, and quality of water in portions of Chollas Creek that are relevant to the project.
- *Chollas Creek Section 2A Hydrology Study Update*. This document will consist of design and technical evaluations pursuant to CEQA, and will be complete by March 15, 2011.
- The *Chollas Creek Section 2A Biology Study* was completed in October 2008, and involved an inventory of all plants and animal species in portions of Chollas Creek that are relevant to the project.

- *Chollas Creek Section 2A Biology Study Update*. This document will consist of design and technical evaluations pursuant to CEQA, and will be complete by March 15, 2011.
- The following provides a description of studies that will be completed after June 1, 2011 in order to assess and evaluate the project.
- The *Pueblo Watershed Stakeholders Needs Assessment* will be completed by February 2012. This study will be comprised of initial data sets and data needs for the Pueblo Watershed (project area), which will be obtained from regularly held stakeholder agency meetings. In addition, the study will utilize data collected from interviews and surveys of local community organizations. Stakeholder agencies and community organizations will provide information regarding the initial conditions, data search, and field investigations with regard to hydrology (erosion and flooding), trail repair opportunities, and invasive species identification and eradication needs.
- The *Pueblo Watershed Hydrology Study* will be completed by June 2012, and will gather all existing water quality and hydrology data and map impermeable surfaces within the project area. This study will be utilized to identify data gaps in precipitation run-off and water quality monitoring, and recommend specific hydrology and sedimentation transport models to be used once data gaps are filled.
- The *Pueblo Watershed Habitat Characterization Study* will involve an initial data search of all plant and animal surveys within the project area, will identify and fill biological survey gaps, and will involve a field investigation of existing and potential habitat restoration sites. The purpose of this study is to generate a comprehensive list of potential wetland, upland creation, restoration sites, de-channelization sites, and potential wildlife corridors within the project area.

Study Performed	Date	Status
BEFORE June 1, 2011		
Chollas Creek Section 2A Hydrology Study	October 2008	Complete
Chollas Creek Section 2A Hydrology Study Update	March 2011	Initiated
Chollas Creek Section 2A Biology Study	October 2008	Complete
Chollas Creek Section 2A Biology Study Update	March 2011	Initiated
AFTER June 1, 2011		
Pueblo Watershed Stakeholders Needs Assessment	February 2012	Not started
Pueblo Watershed Hydrology Study	June 2012	Not started
Pueblo Watershed Habitat Characterization Study	October 2012	Not started

Task 5 – Final Design: All design for this project will be completed prior to the initiation of the Implementation Grant Agreement (before June 1, 2011). Project plans and specifications at the 90% level will be completed in October 2011, and final design will be completed in February 2012. Deliverables for this project will include a report entitled *100% (Final) Creek Restoration Design.*

Selection of design engineering firms for Chollas Creek Section 2A restoration was initiated in August 2008 and completed in September 2008, based on competitive technical and cost proposals from qualified consultants located in the San Diego region and who demonstrated experience with creek restoration of similar scope in the Pueblo watershed performed in compliance with the guidelines specified in the Chollas Creek Enhancement Program.

Design Submittals	Date	Status
AFTER June 1, 2011		
90% Design Submittal	October 2011	Not started
100% (Final) Creek Restoration Design	February 2012	Not started

Task 6 – Environmental Documentation: Environmental documentation will consist of preparation of a *Chollas Creek Section 2A Initial Study/Mitigated Negative Declaration*. This document will consist of an Initial Study in accordance with CEQA requirements, which will be initiated in June, 2011.

The City of San Diego will initiate environmental review upon award of funding (when the project formally becomes a project subject to CEQA). Once the project is approved and funding is awarded, the project will be submitted to the City of San Diego's Development Services Department for review in conformance with CEQA. A Mitigated Negative Declaration is anticipated for the creek restoration project. The City of San Diego City Council will certify the CEQA document and approve construction.

Environmental Documentation	Date	Status
AFTER June 1, 2011		
Mitigated Negative Declaration	June 2011	City Letter

Task 7 – Permitting: No permitting will be conducted for this project prior to initiation of the Implementation Grant Agreement (June 1, 2011). Prior to construction, all the necessary permits required for the project will be secured as demonstrated in the table below.

Permit	Approval Date	Status
AFTER June 1, 2011		
San Diego Regional Water Quality Control Board – CWA Section 401 Water Quality Certification	April 2012	Not started.
California Department of Fish & Game – Streambed Alteration Agreement. Notification of Lake or Streambed Alteration	May 2012	Not started.
U.S. Army Corp of Engineers – CWA Section 404 Permit Nationwide Permit (Will authorize Construction in wetland)	June 2012	Not started.
City of San Diego – Grading Permit	June 2012	Not started.

D. Construction/Implementation

Task 8 – Construction Contracting: Construction contracting for this project has not yet been completed. The Construction Contracting process will include: a Request for Pricing, Screening and Evaluation of Bids, Contractor Interviews and Selection, and Contract Awards. The submittals for this task will include a Construction Specifications Package, which will be submitted on March 31, 2012.

Construction Submittals	Date	Status
Construction Specifications Package	March 2012	Not started

Task 9 – Construction: All construction for the project will occur after the grant award takes place (after June 1, 2011).

Building Materials and/or Computational Methods

The Jacobs Center for Neighborhood Innovation will hire a reputable biological restoration firm who specializes in stream restoration and is familiar with the Chollas Creek Enhancement Program and Pueblo watershed.

Construction Tasks

Construction tasks for this project will include three subtasks:

- ***Subtask 9.1 Mobilization and Site Preparation***: This subtask includes all actions necessary for mobilization and site preparation, including: mobilization, clearing and grubbing, rough grading, and onsite cut and fill. Actions under this subtask will be performed by the selected contractor, who will be managed by the Jacobs Center for Neighborhood Innovation. This subtask could also include all costs and activities necessary to make sure that construction progresses quickly and

efficiently. Mobilization shall include all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the contractor's operations at the site. Of the site preparation scope of our plan, we will be clearing and grubbing approximately 32,000 square feet, rough and final grading 10,000 cubic yards, and cut and fill of approximately 500 cubic yards.

- ***Subtask 9.2 Project Construction***: This subtask includes construction activities necessary for restoration of Chollas Creek, including installation of drainage, installation of bioswales, construction of creek bed stabilization components, and habitat restoration.
- ***Subtask 9.3 Performance Testing and Demobilization***: This subtask includes as-needed performance testing and demobilization for compliance with plans and specifications. Performance testing will include soils testing and water quality sampling, analysis, and reporting. Demobilization will include all actions necessary to finalize construction.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: Environmental compliance for this project will take place upon project construction. Buffering of threatened and/or endangered species habitat is not anticipated based on a biological survey of the creek project area in which no listed species were found. Likely environmental mitigation and enhancement activities that will be associated with project implementation include restoration of existing habitat, erosion control, and invasive plant removal.

All Environmental Compliance/Mitigation/Enhancement will be completed in compliance with the findings and/or Mitigation Monitoring Program determined within the environmental document, which is anticipated to be an Initial Study/Mitigated Negative Declaration for this project.

F. Construction Administration

Task 11 – Construction Administration: This task involves administration, coordination, and review of the construction contract and all other related construction tasks. This task will be carried out by a Construction Administrator and a Construction Manager, who will respectively spend 250 hours and 300 hours on construction administration-related tasks.

Labor Category	Level of effort	Status
Construction Administration	280 hours	Not started
Labor Compliance	48 hours	Not started
Construction Manager	300 hours	Not started

Project 11: Regional Water Data Management Program

I. Introduction

Project Sponsor

The County of San Diego is the project sponsor for the *Regional Water Data Management Program*.

Project Need

During the development of the 2007 San Diego IRWM Plan, stakeholders identified that establishing a regional, web-based data management system was a short-term priority that was necessary to address immediate needs of the region. It was recognized that there is a multitude of monitoring and sampling programs in place throughout the Region, the degree to which data generated by such efforts is shared varies. The result can be duplication of data collection efforts or the failure to identify and address significant gaps in data collection and analysis. The idea is that a web-based system will make data instantly available to interested stakeholders and will facilitate data sharing by transmitting data through user-friendly features. Rather than relying on agency-to-agency data transfers, the web-based system can act as a central clearinghouse for information.

Project Purpose

The goal of the *Regional Water Data Management Program* is to provide a snapshot of current data management efforts and prioritize data needs and lay them out in a basic design parameters recommendations document for the future development of a regional, web-based system for sharing, disseminating and supporting the analysis of water management data and information.

Project Objectives

The *Regional Water Data Management Program* seeks to accomplish the following objectives:

- Establish a regional stakeholder-driven Workgroup to guide development of the Regional Water Data Management Program recommendations.
- Provide a snapshot of current data management efforts and priority data needs.
- Establish basic design parameters recommendations document for the future development of a regional, web-based system for sharing, disseminating and supporting the analysis of water management data and information.

Table 3-14 provides an overview of the San Diego IRWM Plan objectives that are expected to be indirectly (○) or directly (●) achieved through the *Regional Water Data Management Program.*

Table 3-14: Contribution to IRWM Plan Objectives

Proposal Projects	Contribution to IRWM Plan Objectives								
	A	B	C	D	E	F	G	H	I
Regional Water Data Management Program	●	●	●						

● = directly related; ○ = indirectly related

This project contributes to the IRWM Plan objectives in the following ways:

- **A: *Maximize stakeholder and community involvement and stewardship***. The development of the web-based data management program would involve active input from water management stakeholders and would provide a platform for the water managers and the general public to access and use data for management and planning.
- **B: *Effectively obtain, manage, and assess water resources data and information***. This project would develop a web-based system to make water supply and water quality data instantly available through user-friendly features. For some data sets, the system will pull local datasets from other existing data management systems used for data reporting and include data submittal functions.
- **C: *Further the scientific and technical foundation of water management***. The system would assist in eliminating duplicative efforts and reveal any gaps in data collection and analysis. Data analysis tools can assist in the assessment of water management issues assisting in the identification of future projects to further the goals of the IRWM Plan.

Project Partners

Project partners for the *Regional Water Data Management Program* include the City of San Diego, San Diego County Water Authority, and San Diego Regional Water Quality Control Board, as well as the larger San Diego IRWM stakeholder group.

Project Abstract

The *Regional Water Data Management Program* will provide a snapshot of current data management efforts and priority data needs and lay them out in a basic design parameters recommendations document for the future development of a regional, web-based system for sharing, disseminating and supporting the analysis of water management data and information. No design work has been completed to date for this project.

Facilitate Data Management System Advisory Workgroup

A Data Management System (DMS) Advisory Workgroup will be convened to identify target stakeholder groups, guide the development of assessment approaches and provide input and oversight of the Final Data Management System Basic Design Recommendations. The DMS Advisory Workgroup will be composed of representatives from the County of San Diego, City of San Diego, County Water Authority, San Diego Regional Water Quality Control Board, San Diego Coastkeeper, a groundwater quality manager, a surface water quality manager, a wastewater/recycled water manager, and two watershed representatives. The Regional Water Management Group (RWMG) will facilitate six DMS Advisory Workgroup meetings, over the duration of the project, with the assistance of a technical consultant who will provide working materials, content for assessment approaches and methodologies, as well as summaries results of the needs assessments and develop resulting Data Management System Basic Design Recommendations.

Develop Assessment Approaches and Methods

The technical consultant will prepare a summary of assessment approaches and methods to be considered for assessing the needs of various stakeholders within the San Diego region. The assessment approaches and methodologies will be focused on gathering information to understand the relevant existing, planned, or past efforts related to web-based accessibility of watershed and water quality data and information. Methods need to be able to gather information needs and preferences, technology needs and preferences, functionality needs and preferences and any special characteristics or challenges related to each identified stakeholder group. The summary will be presented to the DMS Advisory Workgroup along with an overview of current State efforts for collection and dissemination for water quality data, for input and approval.

Stakeholder Needs Assessment

The RWMG Staff (County of San Diego, City of San Diego, and County Water Authority) will participate in a series of meetings for up to 5 stakeholder groups identified by the DMS Advisory Workgroup. Three meetings will be held for each stakeholder group; two meetings for the assessment of needs followed by a third meeting to review and approve content of assessment results report. Each meeting will be led by a consultant with the sole responsibility of facilitating and managing the discussions for each group. The assessment itself will be conducted by a technical consultant who will gather the provided information and consolidate it into a needs assessment report, one for each stakeholder group. Upon completion of all the stakeholder group needs assessment reports the technical consultant will present a summary of the results to the DMS Advisory Workgroup and facilitate discussion on how to bring all the results together into a Basic Design Parameters Recommendations document suitable for the subsequent technical development of a web-based data management system.

Basic Design Parameters Recommendations

The technical consultant will prepare a draft Basic Design Parameters Recommendations document based on direction from the DMS Advisory Workgroup. The draft document will be presented to the DMS Advisory Workgroup for first review and comment. The technical consultant will incorporate these comments and develop the draft Final Basic Design Parameters Recommendations document and bring back to the DMS Advisory Workgroup for approval prior to release to the public. Two public workshops, facilitated by the facilitation consultant, will be conducted to solicit public input into the recommendations document. The technical consultant will consolidate comments and bring them back to the DMS Advisory Workgroup for review. Comments will be discussed and appropriate responses decided by the Advisory Workgroup. The final content of the Basic Design Parameters Recommendations document will be approved and the next step towards implementing a web-based data management system discussed.

Linkages and Synergies between Projects

As described above, establishment of the *Regional Water Data Management Program* was identified by stakeholders in the 2007 San Diego IRWM Plan. Once complete, it is likely that all project performance data subsequently collected by the San Diego IRWM program will be entered and stored in the *Regional Water Data Management Program.*

Project Timing and Phasing

The project is a multi-phased project. This proposed Work Plan involves establishment of a data framework for the *Regional Water Data Management Program* using a collaborative stakeholder-driven process. The next phase of the project involves actual development of the online software to host the *Regional Water Data Management Program.*

Existing Data and Studies

Not applicable.

Project Map

Figure 3-12 provides a project site map for the *Regional Water Data Management Program*, showing boundary of project, surface waters, groundwater basins, DACs layer, and any proposed monitoring locations.

II. Proposed Tasks

Grant Administration (GA)

SDCWA will be responsible for administration and processing of the Implementation Grant contract, including tasks associated with compiling and submitting project invoices, quarterly reports, and completion reports for DWR. The *Regional Water Data Management Program* will contribute $4,500 to this administrative cost.

A. Direct Project Administration Costs

Task 1 – Project Administration: This task involves general oversight from a Project Manager, who will oversee and coordinate activities shared by County of San Diego, City of San Diego, County Water Authority, and consultant support. This project will require 174 hours of labor from the Project Manager after June 1, 2011.

Labor Category	Level of effort	Status
AFTER June 1, 2011		
Project Manager	174 hours	Not started

Task 2 - Labor Compliance Program: This project will not require a Labor Compliance Program (LCP), because it will not involve construction activities.

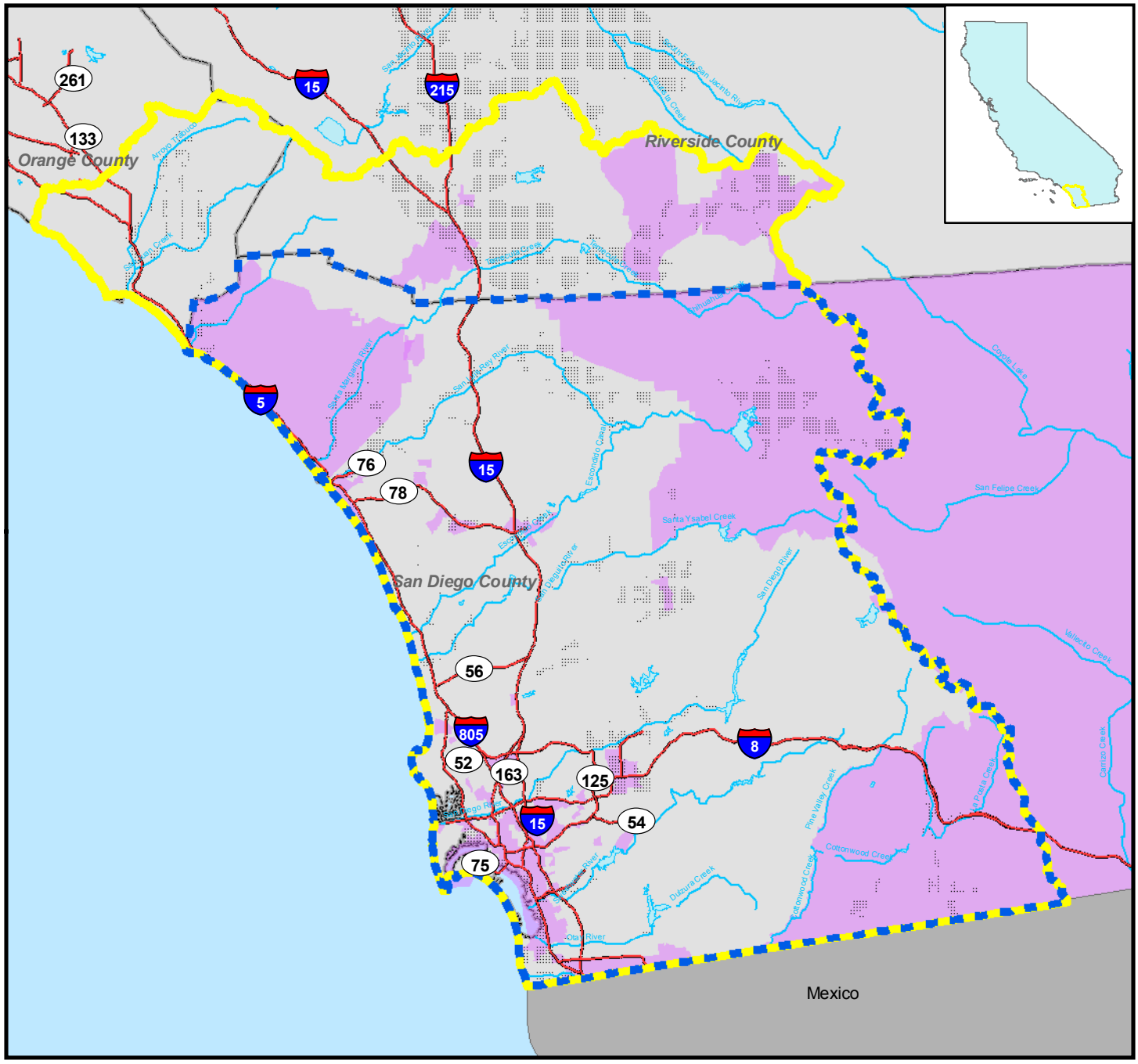
Task 3 - Reporting: The identified Project Manager will complete all necessary reporting, including quarterly reports and invoices, a Project Assessment and Evaluation Plan (PAEP), and a Project Completion Report.

Project Administration Submittals	Date	Status
AFTER June 1, 2011		
Project Assessment and Evaluation Plan (PAEP)	December 1, 2011	Not started
Quarterly Progress Reports and Invoices	Quarterly based on Start	Not started
Project Completion Report	Upon project completion	Not started

B. Land Purchase Easement

A land purchase easement is not required for implementation of this project.

Figure 3-12: Regional Water Data Management Program Map



U.S. Census Bureau, 2000 Census, Median Household Income by Census Tract, Available: http://www.sandag.cog.ca.us/resources/maps_and_gis/gis_downloads/admin.asp
Tribal Lands, Available: http://www.sangis.org/Download_GIS_Data.htm

C. Planning/Design/Engineering/Environmental Documentation

Task 4 - Assessment and Evaluation: Subtasks 4.1, 4.2, 4.3, 4.4, and 4.5 listed within the Budget for this project (refer to Attachment 4) include the following assessments and/or evaluations. Note that each of these subtasks will be completed following initiation of the Grant Agreement (June 1, 2011).

- ***Subtask 4.1 – Convene a Data Management System (DMS) Advisory Workgroup*:** This subtask will be completed by June 2011, and includes identifying and inviting participation in the Data Management System (DMS) Advisory Workgroup. This task will require County of San Diego staff time to prepare invitations and conduct correspondence. Deliverables for this task will be Invitation letter and list of Data Management System (DMS) Advisory Workgroup members.
- ***Subtask 4.2 – Identify and Segment Stakeholder Groups*:** This subtask will be completed by June July 2011, and includes a portion of one meeting of the Data Management System (DMS) Advisory Workgroup to identify and segment stakeholder groups into five groups for conducting detailed needs assessments. Completing this task will require time from County of San Diego staff, County Water Authority staff, City of San Diego staff, consultant(s), and nongovernmental agency staff (up to three, supported with a grant funded stipend). Deliverables for this task will be a meeting summary, sign-in sheet, any materials distributed during the meeting, a list of five stakeholder groups and associated contacts.
- ***Subtask 4.3 – Develop Assessment Approaches and Methodologies*:** This subtask will be completed by September 2011, and includes two meetings of the Data Management System (DMS) Advisory Workgroup in conjunction with a technical consultant to develop approaches and methods to assess needs of stakeholder groups. This subtask also includes the development of assessment materials to collect information on priority data sets, data acquisition options, desired system functionality, data presentation options, and other information as identified by the DMS Advisory Workgroup. This task will require staff time from County of San Diego staff, County Water Authority staff, City of San Diego staff, consultant(s), and nongovernmental agency staff (supported with a grant funded stipend). Deliverables for this task will be meeting agendas, sign-in sheets, draft and final meeting notes, working materials and handouts, and all assessment materials developed by the workgroup.
- ***Subtask 4.4 – Conduct Needs Assessment of Stakeholder Groups*:** This subtask will be completed by September 2012, and includes three meetings each for the five stakeholder groups to conduct assessments and produce a detailed needs assessment report for each stakeholder group. The objective of the final meeting for each of the groups will be to review and approve the content representing their existing and, or past, data management efforts and planned data management needs. This task will require time from County of San Diego staff, County Water Authority staff, City of San Diego staff, two consultants (one facilitator, one technical), and nongovernmental agency staff (supported with a grant funded stipend). Deliverables for this task will be meeting agendas, sign-in sheets, draft and final meeting notes, working materials and handouts, and detailed needs assessment reports for each of the five stakeholder groups.
- ***Subtask 4.5 – Develop Vision for Data Management System Basic Design Recommendation*:** This subtask will be completed by December 2012, and includes one meeting of the DMS Advisory Workgroup to review the results of the needs assessment to provide input on the consolidation of the assessment results into a Basin Design Recommendations document. This task requires time spent by County of San Diego staff, County Water Authority staff, City of San Diego staff, two consultants (one facilitator, one technical), and nongovernmental agency staff (supported with a grant funded stipend). Deliverables for this task will be meeting agendas, sign-in sheets, draft and final meeting notes, working materials and handouts.

Study Performed	Date	Status
AFTER June 1, 2011		
Convene a Data Management System (DMS) Advisory Workgroup	June 2011	Started
Identify and Segment Stakeholder Groups	July 2011	Not Started
Develop Assessment Approaches and Methodologies	September 2011	Not Started
Conduct Needs Assessment of Stakeholder Groups	September 2012	Not Started
Develop vision for Data Management System Basic Design Recommendation	December 2012	Not Started

Task 5 – Final Design: Design for this project has not yet been completed, therefore all design will occur after initiation of the Grant Agreement, and will include Subtasks 5.1, 5.2, and 5.3 described in further detail below.

- ***Subtask 5.1 – Develop Draft Data Management System Basic Design Recommendations*:** This subtask will be completed by January 2013, and includes the development of design recommendations. Draft recommendations will be presented to the DMS Advisory Workgroup for review and comment. This task will require staff time from County of San Diego staff, County Water Authority staff, City of San Diego staff, a technical consultant, and nongovernmental agency staff (supported with a grant funded stipend). Deliverables for this task include meeting agenda, sign-in sheet, draft and final meeting note, working materials and handouts, and draft Data Management System Basic Design Recommendations document.
- ***Subtask 5.2 – Develop Draft Final Data Management System Basic Design Recommendations*:** This subtask will be completed by April 2013, and includes the development of the draft final design recommendations. The draft final recommendations will be presented at two public workshops, during which staff and/or the consultant team will solicit review and comments on the recommendations. This task will require staff time from County of San Diego staff and two consultants (one facilitator, one technical). Deliverables for this task include public workshop agendas, sign-in sheets, presentation material and handouts, and solicitation notice for comments on final.
- ***Subtask 5.3 – Develop Final Data Management System Basic Design Recommendations*:** This subtask will be completed by June 2013, and includes consolidation of the public comments received. The public comments will be presented at one meeting of the DMS Advisory Workgroup. The workgroup will provide guidance on addressing comments, finalizing the recommendations document, and establishing the next step in the development of a Regional Data Management System. This task will require time spent by County of San Diego staff, County Water Authority staff, City of San Diego staff, a technical consultant, and nongovernmental agency staff (supported with a grant funded stipend). Deliverables for this task include comments received on the draft Data Management System Basic Design Recommendations document, and final Data Management System Basic Design Recommendations document.

Design Task	Date	Status
AFTER June 1, 2011		
Develop Draft Data Management System Basic Design Recommendations	January 2013	Not Started
Develop Draft Final Data Management System Basic Design Recommendations	April 2013	Not Started
Develop Final Data Management System Basic Design Recommendations	June 2013	Not Started

Task 6 – Environmental Documentation: This project qualifies as a planning study according to Section 15262 of the California Environmental Quality Act (CEQA) Guidelines, because it may possibly identify programs and projects for possible future actions, but does not have a legally binding effect of the

participating agencies. As such, programmatic environmental analysis under CEQA is not required, and the project does not require NEPA-related analysis.

Task 7 – Permitting: Permitting is not applicable to this project.

D. Construction/Implementation

Task 8 – Construction Contracting: This project will not require construction contracting.

Task 9 – Construction: This project will not involve construction.

E. Environmental Compliance/Mitigation/Enhancement

Task 10 – Environmental Compliance/Mitigation/Enhancement: This project does not require CEQA or NEPA-related analysis. All tasks carried out for this project will be conducted in a manner that ensures environmental compliance with any other relevant environmental statutes.

F. Construction Administration

Task 11 – Construction Administration: Construction administration will not be completed as part of this project.